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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

G. F. STOUT,

WITH THE CO-OPERATION OF PROFESSOR H. SIDGWICK, PROFESSOR W. WALLACE, DR. VENN, AND DR. WARD.

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I.—GEORGE CROOM ROBERTSON.

By A. Bain.

George Croom Robertson was born in Aberdeen on 10th March, 1842. His father, Charles Robertson, is still living. Two elder brothers, Charles and John, obtained admission to the Indian Civil Service in the earliest years of the competitive appointments. The eldest is now retired from the service, and is one of his brother's executors; the second died in India. A younger brother, Alexander, is Librarian of the Aberdeen Public Library.

During the earliest years of infancy, George was constitutionally delicate, and, partly on this account, and partly not to stimulate a brain that already gave signs of unusual activity, he did not commence his education till he was six years of age. He was sent first to a dame's school. He mastered the alphabet and learned to read in an astonishingly short time. After a few weeks of this elementary training, he was transferred to the school maintained by the Incorporated Trades, then under the charge of Mr. Roger, a teacher of some note in his day and a fine specimen of the schoolmaster of the olden type, being as thorough and exact a teacher as he was a strict disciplinarian. The subjects taught were reading, writing, arithmetic, geography, English composition, and Bible knowledge under the guidance of the Shorter Catechism.

Having spent four years under this regime, he went on, at the age of eleven, to the Grammar School,—where for the first three years of his course he was under the tuition of Mr. John Brebner, now Superintendent of Education in the Orange Free State, South Africa. During his fourth year, he was taught by the rector, Mr. Thomas W. Evans. At the Grammar School, the principal topic was Latin, to which were added English (chiefly history) and the elements of Greek. George proved so apt a pupil that, not only did he carry off prizes (some of them firsts) at the several annual examinations, but, at the end of the fourth year, while there was still a year of the usual curriculum to run, gained by competition the second bursary at Marischal College and University, which, accordingly, he entered as a student in November, 1857. The first winter was occupied with Greek, under Prof. R. J. Brown, then an elderly man but a not inefficient teacher; Latin, under Robert Maclure, a man of a fair schoolmaster type, with the genius of translation. At the end of the session, Robertson carried off the second prize in Greek, and stood eighth in Latin. Second year —Higher Classes in Greek and Latin; Mathematics, under Dr. John Cruickshank, a teacher of the first order; and Natural History, under James Nicol, the well-known Geologist. At the end, his prizes were—Greek, first; Latin, fourth; Mathematics, eighth; Natural History, fourth. Third winter—Senior Mathematics; Natural Philosophy, under James Clerk Maxwell, and a voluntary extra class in Greek. At the close he stood—Mathematics, seventh; Natural Philosophy, twelfth; Greek, first.

At this point occurred the great revolution in the Aberdeen colleges, by which they lost their individuality and were transformed into one institution—the United University of Aberdeen. As there were duplicate professors in all the Arts subjects, the elder of the pair was superannuated and the work carried on by the younger. The winter session, 1860-61, was the first under the new system, with this qualification, that students who had commenced their courses in the separate colleges were allowed to finish under the regulations previously in force in each. In Robertson's case, all that remained obligatory was to attend the Moral Philosophy Class of Professor Martin, the former Marischal College Professor, now retained in the United University. The new programme of subjects included, for the first time in Aberdeen, a separate chair of Logic, attendance on which was to be compulsory only on students now entering the United University. Nevertheless, the class was actually formed,

although attendance could not yet be made obligatory. Robertson attended it voluntarily; and this was the first occasion of my coming into contact with him. He took a high place in the examinations, and at the same time distinguished himself in the class of Professor Martin. He took the M.A. degree with highest honours, in April, 1861; his leading subjects being Classics and Philosophy.

In October of the same year, there were instituted the Ferguson Scholarships, value £100 a year for two years, open to graduates of all the four Scotch Universities. One of the two was for Classics and Mental Philosophy combined. Robertson competed for this and was successful. My more particular intimacy with him commenced in the months of his preparation for the competition. The examiner in Philosophy was Dr. McCosh, then Professor in Belfast. It was a condition of the scholarship that the successful candidate should for two years pursue a course of study under the direction of the Trust; and Professor McCosh was appointed to give the requisite directions in this instance. Robertson at once availed himself of the fund at his disposal to pursue his studies on a very wide scale. The winter of 1861-2 was spent by him in London, where he attended selected classes in University College; one being Professor Masson's senior class of English Literature, in which he gained the second prize. He also attended Malden's Senior Greek, and the Chemistry class of Professor Williamson.

In July, 1862, he proceeded to Germany, his first resort being Heidelberg, where he staid eight weeks; his principal occupation being mastering German. The two distinguished names of Helmholtz and Wundt were then associated with the University, the subject of their teaching being physiology. Whether he availed himself of their teaching is not apparent. It was to Berlin that he looked for the fullest scope to his curiosity in the wide domain of philosophical and other learning. He reached the German capital on the 24th of September, and remained till the latter end of March—a period of five months, which included the winter *semestre* at the University. He attended two classes of Trendelenburg—one in Psychology, four hours a week; one on the Metaphysics of Aristotle, two hours a week; Du Bois Reymond, Physiology, five hours a week; Althaus on Hegel, one hour a week; Bona Meyer on Kant, two hours a week. He paid frequent visits to Dorner, and afterwards kept up a friendly correspondence with him and with Trendelenburg. He also saw

Lepsius at his house, and, on leaving, was presented by him with a copy of his *Royal Dynasties of Egypt*. He maintained at the same time a sedulous course of reading, devoting himself more especially to Kant.

Leaving Berlin, he made a tour in Eastern Germany on his way to Göttingen, which he reached on the 17th of April, 1863, remaining there two months. He attended Lotze on Metaphysics and Rudolf Wagner on Physiology. With both these he had subsequent correspondence, and obtained from Wagner a letter of introduction to Broca in Paris, to which he now directed his course. He arrived on the 24th of June, and remained till the 10th of September—a very busy time, but details are wanting. He was recalled to Aberdeen by the intimation of a vacancy in the Examinership in Philosophy, which he failed to obtain. He now remained at home, devoting himself to philosophical study. It was during the year following his arrival that I obtained his assistance in revising *The Senses and the Intellect* for a second edition. He elaborated a number of valuable notes from his German studies, such as the addition made to the handling of the muscular sense. Also for *The Emotions and the Will* he contributed the classifications of the Feelings prevalent in Germany, those of Kant, Herbart, and their followers ; and in other ways aided in the revision. After bringing out the second edition of the two volumes, the *Senses* and the *Emotions*, I was occupied for some time in preparing a manual of Rhetoric. For this he compiled the classification of the SPECIES OF POETRY and VERSIFICATION. He, likewise, co-operated with me in making a search in Aristotle's *Rhetoric* and Quintilian's *Institutes*. The result, however, was disappointing; extremely little could be discovered in either for adaptation to a modern manual. In September, 1864, he was appointed teaching assistant to Prof. Geddes, and shared with him the work of his Greek classes. He performed the same duty for session 1865-66. The remuneration was £100 a year, and no duty was required during the seven months' vacation. He was able, therefore, to devote himself largely to philosophical work. In 1864, he wrote an article on German Philosophy for the *British and Foreign Evangelical Review*, which appeared in the July number. He also wrote an article on Kant and Swedenborg in *Macmillan*, for May, the same year.

In the summer of 1866, a vacancy occurred in the Chair of Mental Philosophy and Logic in University College, London. After an abortive attempt on the Chair of Philosophy in Owen's College, Manchester, Robertson became a candidate

for this vacancy. His chief rival was Dr. James Martineau, whose cause was espoused with great energy by one section of the Council, while another section, under Grote's leadership, favoured Robertson. The leading incidents of the struggle are given with official exactness by himself in his life of Grote in the *Dictionary of National Biography*. The election took place in December, and he opened his class in January, 1867.

His residence henceforth was London.

Before he left Aberdeen, I obtained still further assistance from him towards the Manual of Ethics forming part of *Mental and Moral Science*. His contributions were—The Neo-Platonists, The Scholastic Ethics, Hobbes, Cumberland, Cudworth, Kant, Cousin, and Jouffroy. He had no further hand in the Manual except in revising some portions of the proofs.

Not long after being appointed to University College, he conceived the project of a work on Hobbes, for which Grote gave him every encouragement, and wrote to the Duke of Devonshire to procure for him access to the MSS. preserved in the family seats. As commonly happens, this design proved more laborious and protracted than was at first imagined. In addition to the labour that might naturally be counted upon, an unexpected difficulty was encountered in connexion with Hobbes's mathematical writings. It seems that in Molesworth's edition these were very carelessly edited. In order to do justice to the hot and lengthened controversy between Hobbes and Wallis, he had, at considerable pains, to resuscitate his mathematical knowledge and to trace out the sophistical reasonings of Hobbes through all the disguises that his ingenuity enabled him to put on.

One portion of his researches on the biographical part appeared in the *Encyclopædia Britannica*, and the completing section of the biography, together with a survey of the writings, came out in the volume in Blackwood's Philosophical Classics. Although this work was not executed on the scale originally projected, it preserved the most important part of his labours, and is duly appreciated by students of philosophy. His enlarged purpose would have included more copious reference to the great contemporaries and precursors of Hobbes, whom he had studied with no less care, and to whom he might have done justice in other forms had he been longer spared.

For his elementary lectures at the College he prepared, with all due painstaking, courses of Logic, deductive and inductive, systematic Psychology, and Ethical Theory. All

through his career, his attention was nearly equally divided between the elaboration of philosophical doctrines according to their most advanced treatment, and the history of philosophy both ancient and modern. The summer courses at University College, which were adapted to the requirements of the M.A. degree at the University of London, generally took him into fresh ground—the ancients and the moderns alternately—and were the occasion of a special study of the original authorities. His accumulated stores of historical material were thus very great, as his publications from time to time made manifest. A few more years of active vigour would have enabled him to leave a monument of the history of philosophy second to none. His doctrinal clearness was a notable and pervading characteristic of all his expositions of foregone thinkers.

He gave some carefully prepared popular lectures at Manchester, Newcastle, and the Royal Institution, London. One subject was " The Senses " ; another " Kant," on whom he gave a course of four lectures at the Royal Institution in 1874. His introductory lecture at the College for October, 1868, appeared in the *Contemporary Review*. Other topics of popular lecturing were " The Characteristics of English Philosophy," " The History of Philosophy, as preparation for Descartes, and Locke ". He gave for several years the philosophical course to the College of Preceptors.

From 1868 to 1873, and again from 1883 to 1888, he was Examiner in Philosophy in the University of London. His examination papers are sufficient proof of his efforts to do justice both to the subjects and to the fair expectations of candidates. He also acted as Examiner in the University of Aberdeen from 1869 to 1872, and from 1878 to 1881. He examined for the Moral Science Tripos, Cambridge, in 1877-78, and for the Victoria University, Manchester, as one of the original staff.

He was engaged by Dr. Findlater, editor of *Chambers's Encyclopædia*, to furnish contributions to that work. When the Messrs. Black projected their new edition of the *Encyclopædia Britannica*, they invited Findlater to become their editor. He declined the task, and suggested a choice between Thomas Spencer Baynes and Robertson. When Baynes entered on the work, he engaged Robertson as a contributor in Philosophy. The articles actually written by him were Abelard, Analogy, Analysis, Association, Axiom, Hobbes. Baynes had also bespoken from him the article Psychology ; which he undertook, intending it to be on historical lines. When the time came near, he found

himself unequal to the effort and recommended James Ward in his stead, a fortunate arrangement as it turned out.

On the death of Grote in 1871, he had the principal share in editing the Posthumous Work on *Aristotle*, which occupied him the autumn and winter of that year. From the distinctness of the MS., this was in one respect not a difficult task, although involving a considerable expenditure of time in revision. What chiefly made it toilsome and anxious was a want of exactness on Grote's part, through some defect of vision, in entering the numerical references to the text. Every one of these had to be carefully verified from the originals. The result was a masterpiece of correct editing; and the work as thus brought out will deserve to be ranked as an *editio princeps* of Grote's monograph on the Stagirite.

The death of Grote brought out the fact that he had left to University College a sum of £6000 as an endowment to the philosophy chair. Mrs. Grote, who was entitled to the life interest, surrendered the amount in 1875, two years before her death. In the year of the publication of *Aristotle*, 1872, Robertson married Caroline Anna Crompton, daughter of Justice Crompton. She was in every sense a helpmeet, having the same views on the higher questions of life, and being an earnest labourer in the public questions that he also had at heart. She was likewise of service in his official work, when his strength became barely equal to its routine.

Robertson was a member of the Metaphysical Society of London, which flourished for several years and drew together a remarkable mixed assemblage of philosophers, politicians, and ecclesiastics. He contributed a paper on the 13th of May, 1873, on "The Action of so-called Motives". This paper was reprinted in MIND, vol. vii., p. 567, and is one of our best handlings of the Free Will question on the basis of a critical examination of the verbal improprieties that obscure the issue.

In 1880, when I resigned the Logic Chair in Aberdeen, he was by general concurrence my destined successor. So much was this felt by aspirants to the office, that, until he declared his resolution on the subject, no other candidate entered the lists. Only after he made up his mind to remain in London was there an open competition.

Following the lead of John Stuart Mill, he threw himself zealously into the movement in behalf of women, and was for some years an active member of the only committee for women's suffrage whereto Mill ever gave his name as President. Although in the winter of 1877-8 he, with several other members of that committee, withdrew from

the movement, he never ceased to watch its varying fortunes with interest. Later on, he promoted the introduction of women into the Colleges, and saw the operation of mixed classes, as it originated in University College and was gradually extended into other educational institutions. In his own class, female students were latterly in the majority.

Twelve years before his death, his fatal malady began to show itself. On discovering the serious nature of the attack—calculus in the kidney,—he set himself to work to parry its advances by every form of precaution and self-denial that his skilled advisers and his own experience could suggest; being aided by the unremitting devotion of his wife. How such a malady could have got possession of him at the age of thirty-eight, it is needless to speculate. This much we can pronounce, after the event, that the strain of his intellectual application from early years was excessive. His persistent labours were aggravated by a fervour of manner which, though raising his value as a public teacher, involved a nervous expenditure that even a naturally healthy system could not well afford.

During sessions 1883-4, 1886-7, and part of 1887-8, he had to employ substitutes for his teaching work. He had given in his resignation in April, 1888; but the Council declined to accept it, until he should have the relief of another session by means of substitute. He finally resigned on the 7th May, 1892.

He threw himself with the utmost zeal into the business management of the College, first as a member of Senate, and latterly as the Senate's representative on the Council. Not long after his appointment, Grote learned with great satisfaction that he was highly esteemed among his colleagues in the Senate for his judgment and energy in business matters. In the larger sphere of the Council's operations, he promised to make himself extremely serviceable, when his failure in health obliged him to withdraw from being a member. It belongs to some one associated with him in the College to do justice to this part of his career.

In 1874, I broached to him the founding of a Quarterly Journal of Philosophy; explaining my notions as to its drift, and asking his opinion of the project. My desire was that he should be editor in the fullest sense of the word; and, on that condition, I undertook the publishing risks. After full consideration, he approved of the design, and accepted the editorship on the terms proposed to him. The subsequent steps necessarily were to obtain the concurrence and

approbation of active workers in the field. I first approached Mr. Herbert Spencer, and found him cordial in favour of the scheme. I next saw Messrs. Venn and Sidgwick in Cambridge, and obtained their full concurrence and promise of support. Other parties were seen by Robertson, or corresponded with, both in England and in Scotland. The amount of encouragement was such as to decide us in organizing the work for speedy publication. It was at first thought that it might be brought out in the course of the following year, 1875; but as it could not be ready in the beginning of the year, it was finally arranged that the first number should appear in January, 1876. Robertson bore the brunt of the requisite preparations for the start; settling the plan and arrangement of the numbers, procuring the requisite pledges of articles in advance, and drafting the programme. It was his happy inspiration that gave the title, which commended itself at once to every one.

Our earliest success was the series of papers on Philosophy in the Universities. We had the good fortune to lead off with Mark Pattison on Oxford, and to secure admirable representatives for the others in succession; Robertson himself supplying the account of the University of London. Another matter that we had set our hearts upon we did not succeed in,—*viz.*, to set going a series of discussions on the conduct of Examinations in Philosophy. Perhaps, either of ourselves ought to have broken ground; but, as we did not do so, many other contributors naturally have felt shy at an operation involving criticism of one another's published examination papers. Nevertheless, the subject is one pre-eminently suited for a free interchange of views. The enormous number of questions set every year in the department of philosophy, in connexion with the conferring of degrees and otherwise, by exhausting leading questions tempts examiners to select out-of-the-way and recondite points which do no justice to the candidate's natural course of study; an evil that ample discussion might be able to remedy.

It was of course a prime object of the journal to keep the English reader *au courant* with foreign publications in the philosophical field—both set treatises and periodicals. In this last region, most important aid was given at the outset by Professor Flint, of St. Andrews, which he was obliged to discontinue on being appointed to the Theology Chair in Edinburgh.

The editor spared no pains to procure contributions of this nature, and took upon himself a large part of the

burden of supplying the desideratum. Indeed, in every department of the work of the journal, it is unnecessary to say that he had always the lion's share. Now that he is gone, it is a satisfaction to think that, besides contributing largely to the review of novelties from every corner, and expounding the great historical names of the past, he communicated his most advanced reflexions upon many leading questions in psychology, philosophy, and logic. It is perhaps unnecessary for me to say more, considering that the result is accessible, and that the collective body of contributors have recently given expression to their estimate of his merits. It would, however, be an omission on my part, not to express the deliberate opinion formed on sixteen years' experience, that I regarded him as, in every point of view, a model editor.

I am saved from much that would be necessary to do justice to this sketch by the publication in the *Spectator* of a notice by Robertson's most intimate friend, Mr. Leslie Stephen. In point of exactness of appreciation and felicity of statement, it would be vain in any one to rival the delineation thus afforded. The readers of MIND cannot but be grateful for its reproduction in full.

"I hope that you will permit me to say a few words about the late Professor Croom Robertson. I had the great happiness of an intimate acquaintance with him during the later years of his life, and can mention some facts which ought, I think, to be known to all who may have been interested in his work. Every serious student of philosophy is aware that Professor Robertson was an accomplished metaphysician and psychologist. I do not suppose that there are more than two or three living Englishmen whose knowledge of those subjects is comparable to his for range and accuracy. He had given up his whole life and energy to such studies from very early years, and whatever he did, he did thoroughly. My own knowledge only enabled me to appreciate his acquirements within a comparatively small circle; but whenever I applied to him for advice or information, I was surprised afresh by the fulness of his knowledge. He had always considered for himself any question that I proposed to him, and knew what was to be found about it in previous literature. My own experience was confirmed by those who were better judges than I could be. It was impossible to consult him without being struck by his command both of the history of past speculation and of the latest utterances of modern thinkers. His judgments,

whether one accepted them or not, were at least those of a powerful, candid, patient, and richly stored intellect. He has not, indeed, left much behind him to justify an estimate which will, I think, be accepted by all who knew him. His excellent monograph upon Hobbes, and a few articles, chiefly critical, in MIND, are, I fear, all that remains to give any hints of his capacity. For this want of productiveness there were, unfortunately, amply sufficient reasons. Robertson was, in the first place, conscientious almost to excess as a worker. He could not bear to leave undone anything which was necessary to secure the utmost possible precision. He would not write till he had considered the matter in hand from every possible point of view, and read everything at all relevant to his purpose. As editor of MIND he expended an amount of thought and labour upon the revision of articles which surprised any one accustomed to more rough-and-ready methods of editing. Besides correcting misprints or inaccuracies of language, he would consider the writer's argument carefully, point out weak places, and discuss desirable emendations as patiently as the most industrious tutor correcting the exercises of a promising pupil. Contributors were sometimes surprised to find that their work was thought deserving of such elaborate examination; and it often seemed to me that he could have written a new article with less trouble than it took him to put into satisfactory shape one already written, with which, after all, perhaps, he did not agree. He never reviewed a book without thoroughly making himself master of its contents. He applied, as I have reason to believe, the same amount of conscientious labour to the discharge of his duties as Professor. His work in the two capacities absorbed, therefore, a great proportion of his disposable energy. So conscientious a worker was naturally slow in original production. He would not slur over any difficulty in haste to reach a conclusion. Robertson, indeed, like most of us, had some very definite opinions upon disputed questions, and belonged decidedly to what is roughly called the empirical school. But, whatever his views, he was always anxious to know and to consider fairly anything that could be said against them. Had he ever been able to give a full exposition of his philosophical doctrines, the last accusation that could ever have been brought against him would have been that of hasty dogmatism. He might have failed to appreciate the opposite view; but the failure would not have been due to any want of desire to understand it thoroughly. He was always anxious that

MIND should contain a full expression of all shades of opinion. Whether he succeeded in this is another question. An editor can open his doors, but he cannot compel every one to enter. I can only say, from my own knowledge, that he did his best to secure the co-operation of the men from whose views he most decidedly dissented.

"There was, however, a cause for want of productiveness more melancholy and more sufficient than those of which I have spoken. When I first knew Robertson, he told me that he was preparing a book upon Hobbes. It would have included an estimate of the whole philosophical movement of the seventeenth century. He had gone into all the preparatory studies with his usual thoroughness. He had examined the papers preserved at Chatsworth; and had at his fingers' ends all the details of the curious and obscure controversies in which Hobbes was engaged with the mathematicians as well as with the philosophers of his time. When I wrote for the *Dictionary of National Biography* a life of Hobbes, which was in substance merely a condensation of Robertson's monograph, supervised by Robertson himself, I was astonished by his close acquaintance with all the minutiæ of the literary and personal history of the old philosopher. Unfortunately that monograph was itself only the condensation of knowledge acquired with a view to his larger work. He was obliged to abandon the original scheme by the first appearance of a cruel disease from which he was ever afterwards a sufferer. He had to submit to painful operations, which severely tried his strength. Though temporary relief might be obtained, he lived under the constant fear of renewed attacks, and was forced to observe the strictest regulations for the sake of his health. It was not surprising that his labours took up all his strength; but, on the contrary, surprising that he had strength enough to do what he did. Seldom free from actual pain, or, at least, discomfort, and never free from harrowing anxiety as to future suffering, he struggled on, doing his duty with the old conscientious thoroughness. He was forced more than once to seek the help of colleagues and friends, always, I need not say, cheerfully given; but he did all that man could do with a really heroic patience. I have sat with him when he was still in bed from the effects of a painful operation, and in his periods of comparative ease. He was always the same—cheerful, often in high spirits; delighting in talk of all kinds; keenly interested in all political and social questions, as well as in his more special studies, and yet by no means averse to mere harmless gossip: while always

manifesting a most affectionate zeal on behalf of his personal friends, and of his own and his wife's relations. A man so tormented might have been pardoned for occasional irritability. I will not say that Robertson never showed such a weakness, but I can say conscientiously that I have never known a man in perfect health and comfort who showed it less. On the very rare occasions in which a little friction occurred between him and some of his acquaintances, I was especially struck by his extreme anxiety to say and do nothing which was not absolutely necessary in self-defence, and to guard against being hurried into unfairness by any loss of temper or personal sensibility. I shall never know a juster or fairer-minded man. I always looked forward with pleasure to an interview with him, sure to return on better terms with men and things, with quickened interest on important questions, and with the refreshing sense that I had been in contact with a man of vigorous understanding, and utterly incapable of any mean or unworthy prejudice.

"During Robertson's severe trials, his wife's society had been an inestimable support. Of her, I will only say that she was a worthy companion in a heroic life, that she soothed his sorrows, shared all his interests, and did all that could be done to secure his happiness. Recent losses in her family and his own had inflicted wounds, taken with the usual courage. In the early part of this year, a heavier blow was to come. Mrs. Robertson was pronounced to be suffering from a fatal disease, of which there had, indeed, for some time previously been ominous symptoms. She died on 29th May last, patient and courageous to the end, having in her last illness made every possible arrangement for her husband's future life. Robertson bore the heaviest sorrow that can befall a man in a spirit of quiet heroism, of which, to speak fittingly, one should use the language rather of reverence than of admiration. He had resigned his editorship and his professorship, steps which his wife had seen to be necessary. He did not, however, abandon his intellectual aspirations. He spent the summer with his relations, and had sufficient power of reaction to be planning employment for his remaining life. I heard from him not long ago that he intended, upon returning to London, to get to work upon Leibnitz, in whose philosophy he had long taken a special interest. But his constitution was more shattered than he knew. There was to be no more work for him. A slight chill brought on an illness which was too much for his remnant of strength. He died peacefully and painlessly on 20th September, within four months of his wife.

"Robertson's friends know what he has been to them. They cannot hope fully to communicate that knowledge to others. But it seems to me hardly fitting that such a man should be taken from us without some attempt to put on record their sense of the noble qualities which are lost to the world. Whatever the limits imposed upon him by the circumstances I have mentioned, few men, if any, have done so much in their generation to promote a serious study of philosophy in England. But those who knew him feel more strongly now the loss of a dear friend. No more true-hearted, affectionate, and modest nature has ever revealed itself to me; and if anything could raise my estimate of the quiet heroism with which he met overpowering troubles, it would be his apparently utter unconsciousness that he was displaying any unusual qualities in his protracted struggle against the most trying afflictions."

II.—HEDONIC ÆSTHETICS.

By Henry Rutgers Marshall.

In articles published in Mind, N.S., Nos. 3 and 4, I have endeavoured to show that the hedonic element is all-important in the consideration of Æsthetics; a position which I think holds even if my hypothesis as to the differentiation of Æsthetics from Hedonics be rejected. If this position be correct, and if the view which I uphold as to the psychology of pleasure be a true one, it should be possible to deduce certain general laws of Æsthetic practice from a consideration of the conditions upon which Æsthetic pleasure getting depends. It should also be possible, in some cases at least, to discover the psychological bases upon which have been built the theories which we have found it necessary to reject, although taught by high authorities. If effort in this direction meet with any degree of success we shall gain not only strong corroboration of the hedonic æsthetic theory, but also an effective argument for the Pleasure-Pain theory which I have elsewhere defended.

The hedonic æsthetic theory may be succinctly stated as follows. The beautiful is that which produces effects in us that are (relatively) permanently pleasurable in revival. The ugly, on the contrary, is that which produces effects of (relatively) permanent painfulness in revival. If the production of the Artist is to be effective as an æsthetic object it must bring not only pleasure by its mere presentation, but more than that it must result in the production of pleasurable revivals, which will coalesce with that field of pleasurable revival which in reflexion we call our æsthetic field. The Artist must employ all means which lead to the attainment of immediate pleasures so far as these are compatible with the production of pleasures in revival. He may add much in the way of mere presentative pleasure which may or may not bring us pleasurable effect in revival, and all such added pleasure in presentation is a gain to the work as Art, provided it neither brings pain in revival nor swamps with resulting indifference the revivals which are pleasurable. He may even go further and add elements which give decided painfulness in the direct presentation produced by the examination of the art work, provided the result in revival is on this account made more permanently

pleasurable. Even in the mere examination of art works we must take account of revival fields; for we lose much if we restrict our attention either to the detail or to the mere totality before us. Unless we allow the play of revivals to have full sway our best enjoyment is gone. While pleasures in primary presentation therefore are important, the pleasures of revival are of pre-eminent moment in æsthetic consideration.

To some the separation of the fields of pleasurable "presentation" and revival may seem to involve confusions dangerous for Æsthetic hedonic theory. I think, however, this difficulty disappears entirely if one holds clearly to the implications of the Pleasure-Pain theory which I defend; for under that theory it matters not what is the content which is pleasurable, whether it be of primary "presentation," or of revival, the conditions of the pleasure production must always be the same. Our task, therefore, amounts simply to a consideration of the means to be adopted to produce a pleasure field of relative permanency.

The theory of pleasure-pain which I defend (see MIND, Nos. 63 and 64) may, in psychological terms, read as follows:—

A Content[1] (β) is pleasurable (or painful) when it is causal to a resultant (γ) of psychic fulness greater (or less) than that habitually produced by the appearance of the content (α) which is causal to its own (β's) appearance.

[If we express this in physiological language we have: Pleasure is connected with the activity of an organ when the activity involves a giving out of surplus stored force, that is, of more stored force than is necessary for its habitual functioning, under the stimulus received.

Pain is connected with the activity of an organ when that activity involves inherently less outgo than is habitual under the stimulus received.]

Under this theory, in this respect corroborated I think by the argument of my previous articles, two points are clear:—

[1] It will be noted that I use here and elsewhere the word "content" in a limited sense. Strictly speaking the word might be used to cover any appearance in consciousness. Practically, however, it *most commonly* is used to refer to what, but for the awkwardness of the phrase, I would call "contents of limitation," that is, those states which show exclusive differentiation, and which, if we may judge from sensational experience, are determined by exclusive differentiation within the nervous organism. It is thus that I use it. If I were to give it the wider meaning I should be compelled to use the cumbersome phraseology above noted or coin a word for my purpose.

1st. Pain is incompatible with pleasure. With a given content, the conditions which involve pain must be absent if the conditions which involve pleasure are present.

2nd. There is a field of non-pleasure which is also not painful, *viz.:* the so-called field of indifference, which, while theoretically extremely narrow, is practically wide in extent.

It is evident that both of these fields are to be avoided before we can reach pleasure with any given set of contents. The field of pain must be entirely eliminated unless its occurrence is useful for pleasure production to follow; that of indifference must be suppressed so far as is necessary to avoid the overwhelming of the pleasurable contents by those which do not interest us.

Part I. Negative Æsthetic Laws.

It is evident from what I have just said that we may treat as the first principle of Æsthetics:—

The Exclusion of Pain. The Elimination of the Ugly.

In what has preceded we have seen that there are practically two great classes of Pains. 1st. The pains produced by repression of activities, and 2nd. the pains produced by excess of active functioning.

I have already shown, I think, that in all probability the first class must be referred to the second;—active functioning apparently being necessary to pain production of *any kind.* As a matter of experience, however, we find two means by which we may *produce* pain, *viz.:* by the repression of activities and by the hypernormal stimulation of activities. This fact, which doubtless has prevented the earlier recognition of the common basis of all pains, makes the current distinction between the two classes of pain perfectly legitimate for us who are here concerned with methods of pain *production.* We may, therefore, properly divide our first principle into two subsidiary ones. A. The avoidance of repressive pains, and B. the prevention of pains of excessive functioning.

A. *The Avoidance of Repressive Pains.*

Repressive pains are caused by the failure in consciousness of a content which would normally have appeared. This may happen as follows: 1st. Where contents habitually arise

in any rhythmical manner in answer to stimuli, repressive pain will be engendered if the stimuli fail to appear at the usual time. 2nd. Repressive pains will appear if contents arise which would normally act as stimulants to a content x, this content x failing to appear. 3rd. Where contents often appear in definite relations of succession, repressive pains will be engendered whenever the usual order of their rise is not fulfilled. 4th. It may be noted that the existence of repressive pains is an indication that the content which fails would appear pleasurably if it appeared at all.

[In terms of my physiological hypothesis, these propositions may be stated as follows: The inhibition of functioning for which an organ is very fully prepared is the basis of the pains of repression. 1st. Organs which habitually act in any sort of rhythmical manner attain a normal capacity for action at the moment of the habitual rhythmic return of the stimulus. If this stimulus be inhibited we shall have the conditions of repressive pain. 2nd. Again, if by any means the capacity for action of a given organ be brought to a maximum and the stimuli to the nutrition of the organ be continued, unless action of the organ supervenes, we shall have also the conditions of repressive pains. 3rd. Where organs or groups of organs are often called into activity in definite relations of succession, the nutritive processes, so far as we can see, must become so connected that the activity of the first element of a series will effect the readiness for activity, *i.e.*, the nutritive condition, of the elements which have ordinarily acted in the successive order, so that as they are stimulated in their order they may be able to react effectively to the stimulus received. If this usual order of stimulation be not fulfilled, we shall have again the conditions of repressive pain. 4th. The existence of the repressive pain is a mark of a condition which will bring the fullest pleasure in case the inhibited activity is not too long delayed.]

1. Those repressive pains included in the first class above mentioned are induced only by the production of abnormal conditions, and in a search for means towards pleasure production, such as æsthetics is held to involve, we should expect to find them *naturally* avoided. No one who desired to produce an æsthetic work would think of giving it such form that its appreciation would be dependent upon the holding of one's breath or upon the existence of the mental states which we call hunger or thirst. In comparatively few cases do we deal with more than imperfect rhythms, and these are treated in this connexion under point three.

2. The second point made above in reference to repressive pains would seem to teach that the Artist must in general avoid the stimulation of cravings which cannot be satisfied, the production of desires which are impossible of fulfilment, the suggestion of lines of thoughts which cannot be completed. It is not apparent, at the first glance, that any such canon of practice is recognised by artists or critics. Indeed, on the

contrary, many works of art which we all agree to be of the highest order of excellence are distinctly felt to produce these longings of a dull and indefinite sort. When we come to consider the matter closely, however, we see why no such rule is acknowledged, for it is evident that these pains will be admissible, in a way, provided the observer's thought is thereby turned in new directions of pleasure getting. It will be admitted, I think, that it cannot be the proper aim of an artist to induce *strong* cravings,—*intense* desires,—*fierce* passion. It cannot be forgotten that as long ago as Aristotle the power of artistic work was felt to lie largely in its capacity to *dispel* the passions, to *purify* the objective through the Ideal. Those art works which evidently induce lesser unsatisfiable longings, as of love and pity, or which bring desire for what is unattained or at the moment unattainable, gain their power, it would seem, not through the pain so much as by the flow of sympathetic activity which is produced, or by the impulses which are awakened, or by the revival of old-time thoughts which in their wide reaches are ever delightful. It is in reflexion that we are most powerfully affected by these works of art. As we, in revival, view the mental state which was induced by their study, we feel the sympathetic delights which give them worth, or we see that they brought to us impulses that we hold to be of highest ethical value and which it must always give us the deepest satisfaction to feel that we have possessed. With the bitterest pains of repression, we contemplate the portrait of one whom we have loved but lost; and yet with the pains are aroused so many trains of memory which tell of joy, that we return again and again to the contemplation. We would not give up the pains, for without them were impossible the renewal of other deep delights.

3. The third class of repressive pains, to which we now return, will evidently be of not infrequent occurrence, for they depend upon combinations in varied orders which are easily alterable, and which, on the other hand, are grasped with such difficulty that we cannot expect to find repressive conflicts avoided. We should, therefore, look to find some recognition of occurrence of these pains and some general attempt at their avoidance in æsthetic theory and practice. It is these pains which make up the very usual form of Ugliness which is determined by the combinational effect of many disappointments of expectancy,[1] each painful, in too small a degree, indeed, to be emphatically presented, but for

[1] *Cf.* Hutcheson.

all that, helping to make up an aggregate of undefinable but emphatic disagreeableness. In one of his interesting and suggestive studies[1] Schiller tells us that "beauty can tolerate nothing abrupt nor violent". In other words, if an object is to appear beautiful to us it must not bring to us shocks of any kind. The lines — the forms — the colours — the sounds, which we find in nature, resultant as they are from the influence of cosmic forces in conjunction with growth, bring to us certain arrangements of stimuli, which, though complex beyond our powers of analysis, must mould our nervous system into preparation for the reception of stimuli in corresponding orders and arrangements; and this in psychological terms means the production of a tendency to the rise of certain special contents in special orders and relations to one another. If, then, nature presents to us, as she does with *relative infrequency*, objects which bring stimuli in relations contrary to those in accord with which our systems have been moulded, we should expect to note just such shocks of repressive pain as nature's monsters produce in us, quite apart from the active pains (of aversion or fear, *e.g.*) which they may superinduce. In our productive work, it clearly would be indicative of an intelligence far above that which we possess if we did not find ourselves too often bringing about combinations of stimuli which violate the order that nature has impressed upon us.[2]

4. While speaking of these pains of repression which lead to pleasures, we may appropriately bring forward the fourth point made above. If the pain of craving can finally be replaced by the pleasures of its satisfaction it is apparent that the pains of repression within limits may be encouraged by art workers, for the very sake of the after effects of pleasure to be obtained. The pains of repressed activity indicate, as we have seen, an organic condition of full preparedness, so that if action supervenes it will bring the highest degree of pleasure that can be induced by the organ's activity. These repression pains may, therefore, be taken as the index of pleasure capacity, and we may expect them within limits to be used by the artist because thereby he will gain certainty that the pleasure limits have been attained, and that a full pleasure will accompany the action

[1] *Zerstreute Beobachtungen*, p. 86.

[2] The reader will understand from my previous articles how it is possible for a person to gain "an acquired taste" (an acquired pleasure capacity) which will in the end make these unnatural forms not unpleasant and even enjoyable through appreciation of other values than those which are natural.

which is to follow the repressal. Dependent as such transformations from pain to pleasure are upon the succession of psychic states, we should look for notable practical exemplifications of them in arts which deal especially with phenomena of succession; in music and in literature. In music we have example in the delayed resolution of a chord which is allowable even to the point of painfulness. In literary work we have example in those every-day complications of plot which delay the consummation longed for and finally reached. Schiller, speaking of Tragedy, tells us that "the highest degree of Moral Pleasure cannot make itself felt except in conflict. It follows hence that the highest degree of pleasure must always be accompanied by pain." The principle is one of wide import in all branches of Æsthetics, and here I think we have its basis; for, as we have seen, organic rest is a most important condition of pleasure production. How are we to gain knowledge that we have reached full capacity for organic functioning unless we wait on the pain which comes after the absorption of energy has reached its maximum? We have here also the psychologic basis of many a theory of the relation of the Ugly to the Beautiful and of the value of the presentation of Ugliness as an element in the Beautiful; as instances of which we may note Schlegel's dictum that the principle of modern art can only be found if Beauty and the characteristic Ugly be indissolubly connected; and Rosenkranz's statement of the Aristotelian notion that the artistic genius finds the highest triumph of his art where he represents the Ugly objectified, and Beauty all-powerful through triumph over evil.

Illustrations here crowd upon us. All of nature's lines are affected by the power of gravitation. It seems clear to me that the relative grace of the suspension bridge and of the cantilever truss is principally determined by the fact that the catenary curve in the one case presents to us nature's pendent form, while the strutted extensions of the cantilever bring to us other lines than those in accord with which she has educated us. As one's eye follows the lines of the truss, natural organic combinations bring preparation for action in certain directions. But the stimuli to these activities fail when the abrupt and rigid lines break off in directions which nature has never given us; the shocks of repressive pain which result produce that sense of discomfort which we express by calling the work ugly. One who stands by the brink of Niagara, with its ever-flowing lesson in the curves of gravity, cannot help feeling strongly that the lines of the suspension bridges are in satisfactory harmony with the scene, but that the cantilever bridge makes a blot upon the landscape as unfortunate as the rigid forms of the factories built upon the river's bank. It seems to me that the beauty of the rocket is also largely determined by the submission of its movement

to the laws of gravity. The same principle may be recognised in visible forms quite apart from their contour lines. The relations of the parts in the human figure vary in an indefinite number of small ways—but any marked disproportion of parts at once gives us the shock of ugliness. It is comparatively seldom that nature brings these positive shocks, although often the men and women we meet show little of beauty. In the creative representations of man, however, nothing is easier than to produce such misemphasis of relations, and such unnaturalness that ugliness in whole or in part is induced. Even more delicate are the relations of colours. "Is it not strange," a lover of flowers once said to me, "that nature does not give ugly combinations of flowers when it is so easy for us to combine them in an unsatisfactory manner?" This observation teaches the doctrine here discussed. Nature through the influence of the pre-historic past has been our teacher, and to nature's colourings we must go to learn what combinations to make use of in our work of re-arrangement, and, if we may so speak, of re-creation. If we break away too far from her guidance we have our punishment in the shock of perceived ugliness. When we turn to Sound relations we recognise the disagreeableness of sudden changes from the habitual movements in music if, for example, some unskilled performer strikes an incorrect note in a known progression or if the development of a harmony be broken by an erroneous chord.

Here we find ourselves prepared to step away from nature's teachings to the more complex regions of mental effort which depend upon habits artificially formed, if we may so speak, in the process of development. The principle will be recognised as the same, however, whether the pain be caused by breaks away from habitual combinations produced by nature's wider and racial, or by more narrow and individual, influences. The related forms which our race through many generations of experience has learned to feel to be most satisfactory cannot be lightly disturbed without producing painful distraction. This we all feel in those lines on which practice enables us to judge with discrimination. The mere novice objects to a Gothic window in what purports to be a "classic" building. The more highly educated student at once revolts against a façade of Corinthian detail massed in Doric proportions or with Ionic intercolumniation; and this is due to the fact that he has learned by observation how these special parts have been best related by the long study of successive generations in the past. The work of one who disregards this racial experience brings to the expert a shock which for him makes æsthetic joys impossible. So it is with the purist's judgment in all Art work. Habit here, as in all of life, dominates us, and perhaps the greatest danger which the critical student has to guard against is that of the artificial creation in himself of petty standards which, when shocked, give a sense of ugliness sufficiently predominant to prevent the appreciation of wider beauties. It is worth noting here that one of the greatest obstacles to æsthetic advance is found in this capacity to form artificial standards. We "get used" to forms which are intrinsically bad; gain such habits of thought in relation to them that they shock us no longer, and thus we are led not only to tolerate what can never show us any positive beauty, but even to feel revolt against change produced by the shock which that change induces.

We are here brought to the consideration of certain negative principles of great importance, which in a number of cases we shall find have already been recognised, but erroneously, I think, as positive teachings of the contraries of

those principles which should rightly be emphasised. We are all too ready to fall into logical pitfalls connected with incorrect use of complementary opposites. Experience tells us that we must avoid *not x* if we are to produce a beautiful object; *x* therefore is fixed upon as the basis of Beauty.

It is clear, after what has just been said, that were we to start out from a theoretical basis we should be inclined to hold that our safest course of procedure would be to *imitate nature;* sifting out her especial beauties, or recombining her elements, so that (relatively) permanent pleasure would result for us. In fact it appears that this is what the great mass of our Artists in almost all lines of effort do to-day, and what they always have done; and this observation doubtless led Aristotle to look at Imitation as so important a principle of Art. It is apparent, however, that it is a means to an end merely, and that it is not possible to make it fundamental for all art, as some of Aristotle's followers, upholding the principle by strained interpretations of the meaning of "Imitation," would have us believe he intended to make it. It appears to me that it is a principle of importance rather negatively than positively. It guides us in the direction in which beauty will be found, and far outside of which it cannot be found; but that it gives us a positive basis for the production of Æsthetic result, I think untrue, as must be evident to any one who does not exclude architecture from the realm of Æsthetics as Aristotle apparently did. Other examples of the same illicit procedure and of the consequent misnaming of principles are not wanting, some of which deserve mention.

Freedom from shocks implies avoidance of inharmonious relations, and perhaps it is not surprising that the observation of this should have raised *Harmony* to the dignity of a first principle, notwithstanding that the most cursory examination must show any unprejudiced person that we are fairly enveloped in a world of harmonies, which give us no Æsthetic result at all. So again uselessness, unfitness, abnormal departure from type, must be eliminated if painful shocks are to be avoided, and without such avoidance no effect of beauty can be obtained. From this source, it seems to me, have arisen the doctrines of the relation to the Æsthetic of *Usefulness*,[1] of the importance of *Fitness*,[2] of the necessity of *Conformity to Type*.[3] No egregious departure from our

[1] Confer Buffier, *e.g.*

[2] Sir Joshua Reynolds, *e.g.*

[3] *e.g.*, Sir C. Bell. Ruskin also counts Beauty of Type as a notable category. Compare Leslie Stephen's *Science of Ethics*, p. 76.

typical standards, no marked unfitness in the object presented, nor any emphases of qualities which are hurtfully useless are possible without producing this pain. But it is as far as possible from the truth to hold that departures from normal types within limits are non-æsthetic; on the contrary, it is just such departures which add piquancy to much which we admire. It is equally misleading to argue that the non-useful can not be beautiful, or as is more often the case, to over-estimate the importance of the recognition of the useful in given æsthetic fields. So far as the Useful is a positive principle, it is covered by the principle of the summation of associative pleasures.

An illustration of my contention may be found in that treatment of Gracefulness, adopted by Mr. Herbert Spencer, which makes its delights dependent upon adaptation to ends. Grace without this adaptation is, of course, unattainable, but that is merely a negative description of its field. If his position were correct we should be compelled to grant the quality of gracefulness to a perfectly ordered machine, and to shut out most important elements which have no relation to fitness whatever, the delight which we gain from those flowing curves which our retentiveness pictures for us in and through movements, the sympathetic pleasures which Schiller has so well described as dependent upon "beauty of form under the influence of freedom,"[1] without appearance of the strife and conflict which willed actions entail; and we should be forced to leave out of account many other elements of associative feeling. Perceived Usefulness in like manner has been made the essential point in Architecture. Usefulness truly becomes more important in this than in other arts, not however *per se*, but through the strong emphasis of the painfulness of each useless feature which exists to the detriment of the whole. It is probable that the superior pleasure obtained out of ancient works of architecture is in some degree due to the fact that they have lost their capacity to shock through opposition to the immediate needs. The limitations of human capacity are so great that shocks of this kind are forced upon us in every newly constructed building made to serve some distinct purpose, however great be the skill of the designer. To be sure each *use* may add to the complex pleasures of activities associated with the use, and these associative pleasures will be cut off in disappointment pains, when the lack of this usefulness is noticed, but here again it is the non-æsthetic effect of the non-useful and not the æsthetic effect of the useful which tells, and which forms the basis of the so-called principle. Mr. Spencer also holds, as Emerson held before him, that the useful tends to become beautiful; but so far as this is true it is not because of the usefulness *per se;* it seems much more naturally explicable as one of the phenomena of habit; for, as we have seen, in a great class of cases actions which have become habitual gain for themselves pleasure capacities either directly or associatively. Another point made by Mr. Spencer seems to illustrate our contention. Style he thinks depends upon the reduction of friction to a minimum in the chosen vehicle.[2]

[1] *Armuth und Würde*, p. 17.

[2] Confer also Guyau, *Essais de l'Esth. Contemporaine.*

But surely this is merely a negative principle, a condition preliminary to the use of those satisfactory forms which mark a good style in whatever material the artist works.

Turning in another direction, it appears that the doctrine which makes the Expression of Truth an essential principle of Art has a similar negative basis. Untruth, in all the arts, is a source of great dissatisfaction. This is markedly the case with Architectural forms, where better education teaches the observer the natural action of constructional elements, and creates uneasiness unless there is evidence of their consideration in the building up of the masses. It is natural, therefore, that we find the principle of "Truth" constantly reiterated as an especially valuable dictum of Architectural Æsthetics. Here we may mention the demand for Repose in Architecture and the plastic Arts in general as another negative principle, founded in this case upon our appreciation of nature's law of gravity. Repose *per se* will not bring us æsthetic joy, but without it, in the cases cited, beauty cannot be reached. The building must be felt as stable, the human figure must "stand upon its feet," or be poised in a position it could occupy in nature without continued strain; but these conditions may well be fulfilled without result of æsthetic moment. Let me illustrate this general point once again. Growth is a law of nature. Everywhere around us we see forms which are of marked type indeed, but which present evidences of developing change in non-essentials. Art works which present evidence of such growth gain great power through the sympathetic harmony with nature and with our own developing selves. The evidence of this veri-similitude of life, perhaps unanalysed and not definitely recognised, probably adds much, for example, to the attractiveness of the Gothic Cathedral and emphasises the poetry of the structures of Northern Italy. Musical forms also are especially fertile in producing those living effects. Music which is mechanically produced can never be satisfactory. But surely it is not in evidence that the expression of Growth or of Life can be held to be the fundamental in Æsthetics,[1] as some would have us believe. At the most the effects produced by the representation of these qualities can be but an adjunct to other means of impression; for certain people, however, who become accustomed to look for them, they may be demanded when absent, for the

[1] Confer Guyau, *L'Art sur p. d. v. Sociologique*, p. 75, *et al.*

purpose of eliminating a painful need, and may thus become for them necessary to æsthetic result without showing proof that they are the essential to æsthetic effect in general. The Unities which Aristotle made so essential in the development of the drama gain their force negatively, for without such unities distractions must be felt from the line of thought in which the poet would guide his hearer. That this is true is shown by the lessened demand felt for the unities of time and place in the drama of modern times; for, through historical study, the grasp of eras has become as common to-day as that of individual lives; and, with us, movements from place to place widely separated are matters of usual occurrence.

We now come to the second division of our principle in

B. *The Avoidance of Pains of Excessive Functioning.*[1]

So important is this avoidance that works of art are in all cases developed on lines in which excesses may be shunned with little difficulty. So soon as the work of the artist begins to tire us we must be able to turn away from its consideration. The stimulus given must directly or indirectly be under our control, so that we may grasp the opportunity for enjoyment when, and only when, we are in the mood for the special pleasures involved.[2] There is no more certain manner of destroying our appreciation of any special art work, that is, of making it non-æsthetic for us, than by compelling attention to it when we are weary in the direction of its peculiar stimulus.

As we have seen, a certain class of repressive pains are *naturally* avoided, and with pains of hypernormal activity nature aids us also very materially, for we tend automatically to prevent excess by the shifting of attention. Concentration and permanence of attention upon one subject are certain to become speedily painful; indeed, because of the reflex effort at avoidance, they are, strictly speaking, impossible, except by means of a cultivated habit, and then only through the artifice of "looking around the subject" so to speak—of allowing the various details to be viewed in the mental focus without letting go the primal theme which is held in associative trains. As avoidance of pains of this

[1] These pains, as we have seen in my former discussions, are caused by stimulation to activities for which an organ is not prepared.

[2] Confer Sully, *Possibility of a Science of Æsthetics*. Fechner, *Vor. d. Æs.*, vol. ii. p. 55.

type is comparatively easy and almost automatic, it is natural to find that theoretic consideration has dealt less with them than with those repressive pains not naturally avoided which are the result of unexpectedly encountered pitfalls, only to be missed by much prevision. That excesses must be shunned is taken for granted. This is the principle involved in Aristotle's emphasis of the necessity of adopting a mean between extremes.

Taking the realm of Pain as a whole we may state our principle, in psychological terms, as that of " The Avoidance of the Ugly ". It is thus that the artist gains the broad background which he must win before he can realise his ideal of beauty. His results must give many a pleasurable element, and, as we shall presently see, some special points of intense interest, but he cannot hope to make the wide mental field which his work arouses altogether pleasurable ; the most that he can hope for is that it shall be devoid of elements of possible painfulness. The importance of the principle will be acknowledged when it is considered that special interest in the work of art as at first presented may very easily blind one to many elements in the work. If these latter are displeasing they will become effective to cast the work out of the realm of æsthetics as soon as the intenser interests pall upon us. All men naturally follow out this maxim, and it is mainly through accumulation of such eliminations of ugliness that our standards of artistic excellence have been reached. On general lines the bad has been sifted out or allowed to fall into the background as time has passed, and the noble and beautiful has been left unaltered because it has been felt too satisfactory to require change.

Most of us are wont thoughtlessly to look back at the Architectural forms of Greece as the creation of her golden age. But it is clear to the student that those splendid achievements embody the thought of many generations, and even of diverse races, rather than that of a special era of a few generations' continuance. Generation after generation had felt the same needs in their worship, had built and rebuilt temples as their inferior materials and workmanship, or the more actively destructive forces of nature, compelled. Each new work had made it possible to eliminate some form which had been displeasing in the last effort, to alter some unsatisfactory surface, to change some deficient shadow depth. In the final results we see the record of untold endeavour towards the attainment of beauty, mainly successful because time and experiment have effected the complete elimination of the ugly. The growth of Gothic forms, of which we have better knowledge, tells the same story of experiment and partial failure ; of renewed effort with avoidance of the elements which made the last work unsatisfactory ; until we reach the glory of the best Gothic, less

perfect than the Greek indeed, as it expressed the demand of a race impelled by less unity of feeling, and as its growth was forced within the relatively short period of perhaps a thousand years. Too great difficulty of applying eliminative experiment may indeed be looked upon as a bar to development. The Egyptians, to whom the expression of permanence seems to have given the greatest satisfaction. built in such ponderous material and so durably that change of form was a matter of far greater difficulty than with the Greeks, whose materials were far less permanent and much more easily worked. This difference doubtless accounts largely for the fact that we find Greece in a relatively short time gaining possession of such a flower of Architectural Art as had failed to spring from the stem that had grown for long ages in the climes of Northern Africa. It is no little comfort to us in these restless times to see how few of our buildings are constructed to last in the future. If, with our changing needs, we have little ability to develop an architectural art, at least our descendants will not fear to sweep the greater part of our work from the face of the earth. We see the main principle enunciated, however, in our own times and in our own homes. Comparatively few of us can fill our homes with objects which remain for us, or for our friends, of permanent beauty. We may be able to have a gem here or there, but that is all. Still we may avoid "shocks," and in that avoidance lies much of the power of a cultivated mind in architect or householder. To this is surely due the beauty which *grows into* the homes of those whose culture is handed down with the building which passes from one generation of refined people to another. The inhabitants learn to brush away the "shocks". The inharmonious lines and forms are covered; the harmonious lines and forms are retained; gradually and unwittingly they mould their surroundings to relations which do not clash. In such an environment the smallest beauties tell.

In looking over other Art fields where the medium of expression has been in less permanent material, it is difficult to realise how much work has been done which has been cast aside because of inferior worth, has been allowed to deteriorate and thus has been lost. It were much more difficult did we not realise that our race is in the main not far removed from those that time has swept away before us, and did we not see this process of production and elimination going on around us to-day. Practically a vast proportion of the pictures preserved in the great galleries of Europe have been eliminated from the Æsthetic. We go to these vast treasuries to study a few pieces of work; all the others are passed by as if they did not exist. If we could reproduce the sudden barbaric intrusions of the past, it is easy to see that the few precious gems which time has taught us to value supremely would be hurried off to places of safety, while all else might readily be eliminated by vandal destruction or neglect.

It is evident, of course, that the attainment of an unpainful background in itself will not suffice to bring about Æsthetic result. Not only must the artist avoid pain in indifference, but before gaining the pleasure field he must move *beyond* this field of indifference. This brings us to our second division, which, however, we may pass over lightly, for indifference may be avoided only in the directions of pain and pleasure. Pain, as we have seen, is also to be avoided by the artist. The attainment of Pleasure is, therefore, the

only means by which we can step away from indifference in a direction that will be not unæsthetic, and we are at once brought to the consideration of the positive field of æsthetics, to which we now turn.

Part II. Positive Æsthetic Laws.

The problem before us here is to discover the means necessary to *the production of a pleasure field which shall be relatively permanent.* It will be convenient in our discussion to treat separately (1st) the production of pleasure itself, before considering (2nd) the means used to the attainment of *permanency* of pleasure field.

I. In what has preceded this we have seen that all pleasure is dependent upon the rise into consciousness of contents which are coincidents of action in well-prepared organs; *i.e.*, that pleasure occurs whenever the stimulus affecting an organ occasions the *use of surplus stored force.* From this theory we may make the following deductions: Pleasure arises:—

A. When there appears in consciousness a content which has before appeared but which has been lately absent, because no stimulus to its production has arisen.

B. When a content appears after inhibition of its normal appearance.

C. When a content appears with unusual vividness after normal absence from consciousness.

[In physiological terms these propositions may be stated as follows: Storage of force is attained by rest from activity. The preparation to act effectively involves time; recuperative processes are in the main less rapid than are those involved when action takes place in answer to a stimulus from without. All organs, however, have surplus power which is not brought into activity under normal conditions, but which may be brought into use under hypernormal stimulus with only normal nutritive conditions. It appears, therefore, that the use of stored force may be reached:—

A. By the stimulation of organs, which having been long rested have gained great potential efficiency, so that a stimulus, normal or very little above the normal, will bring fully into action their stored energy.

B. By the artificial nutrition of organs which are to be called into action.

C. By a decided hypernormality of activity for a short time after merely normal rest.]

It is, of course, evident that these methods of pleasure production may be used coincidentally, but it is desirable for us here to treat them in isolation.

The pleasures of rest after labour, or relief from pain, as we have already seen, although really to be considered as a sub-class under the pleasures of activity, are in practice separable from them, because they are reached in practice by distinct methods. Unquestionably use is made of them in the arts which deal with phenomena of succession. No slight pleasure is it that we obtain in music by the introduction of a calm restful movement following upon a train of intense and vigorous passages calling for our active attention. But on the whole these pleasures do not form an element of marked importance in Æsthetic work, especially because they are so dependent upon the existence of and are inseparably connected with anterior pains. We may pass on, therefore, without further examination in this direction.

A. The first point made above gives us the widely recognised æsthetic principle of *Contrast*. Contrast in any region of mental effect involves the presence of contents which have not been in consciousness in the late past.[1]

[This involves the action of organs which have not been functioning lately. Gradations in sense effect or in thought transitions are mental movements which imply the gradual coming into action of the organs which are successively the centres of activity. Contrast eliminates all gradations; it involves the action of organs, which through mere rest have become well prepared for activity, and which, therefore, produce pleasurable activity when stimulated.]

That Contrast is an important æsthetic principle is recognised by all; indeed it is not infrequently over-valued, *e.g.*, by Mr. Herbert Spencer, who calls it an *essential* requisite to all Beauty. But our theory would teach that contrasts are not æsthetic *essentials*, because pleasure can be reached without contrast by mere increase of vividness. Still it must be granted that the principle is of the widest application, and a most available one for the guidance of the Artist. Very strong contrasts, however, must be used with the greatest caution; they give powerful effects, but are rapidly exhaustive and, therefore, must in general be

[1] That Contrast *per se* is always pleasurable may not be granted by some who recall disagreeable "contrasts" of colour for instance; the apparent exceptions, however, are in part explicable as due to connected association with vague painful contents, but in most cases are really not to be called contrasts at all in the sense of my definition, for they cannot be shown to be shiftings to entirely new contents. Confer Rood—"Modern Chromatics"—especially chapters on Contrast and Colour Combinations.

avoided. To this we refer later under the consideration of permanency.

B. The pleasurable appearance of contents after inhibition of their normal occurrence has been already incidentally discussed in considering the repression of activities, and we need give no space here, therefore, to this means of the attainment of a full pleasure field. The principle before us becomes important, however, in another direction. If there arise by suggestion from the expressions of another, trains of thought which are normally connected with other secondary trains, but if by skilful management the arousal of these secondary trains be prevented, then we have a condition of artificial inhibition which will result in pleasure getting whenever the secondary trains are allowed to appear.

[In physiological language this may be spoken of as *artificial nutrition of organs which are to be called into action;* for the normal connexion between the primary and secondary trains implies connexions between the stimuli which bring nutrition to the organs involved in the presentation of the two trains. The temporary inhibition of the secondary trains, therefore, implies a gain of nutrition in the organs of the secondary trains without the use of the energy accumulated.]

Such it seems to me is the process in the delicate play of wit. In what is usually called the "ludicrous" we use this means, although much of the effect in such cases is dependent upon sudden transitions in the lines of ordinary association from mental processes which involve effort to more habitual processes where the same energy will produce greater effects, *i.e.*, hypernormal stimulation.

It is, of course, impossible here to argue this point at length. While other sources of pleasure getting are made use of in various ways together with the action above described, I think it can be shown that this is the characteristic movement in what is usually called the Ludicrous, and that it serves well to harmonise the oppositions of the many thinkers who have attempted analysis of this mental state. Those cases of the ludicrous which seem to involve little except surprise are explicable on the ground that the surprise involves attention and expectation of important outcome. When the unimportance of the object or action is perceived the relaxation of attention results in the same powerful overflow into the channels of ordinary activity. The easy and marked "step from the sublime to the ridiculous" is also thus explicable.

It cannot be claimed that all such transitions as are above described are ludicrous, for thought trains of discovery and invention are not infrequently of this nature and to them surely the word ludicrous cannot be applied. Introspection seems to tell me, however, that the psychoses in the two cases are very closely allied. We have a tendency under such circumstances to laugh, or at least to smile, under the pleasurable excite-

ment, and we occasionally speak of the resultant as a "happy thought". I am inclined to think that the difference, at first one of degree rather than of kind, has become marked because the more emphatic and fuller state produced in us by what we term the "ludicrous" has become indissolubly connected with what Kant describes as "the sudden transformation of a tense expectation into nothing".

Wit and the ludicrous are seldom separated in practice. The wit, properly speaking, plays around his subject, avoiding the more usual outcome of the train of his thought but leading that of his hearer close to this normal resultant, until, when it may be supposed that all the organs connected with the normal outcome are fully prepared for action, he turns the thought train in the direction which is effective for pleasure. The stimulation of the well-nourished organs, which is thus involved, is followed by the burst of pleasure-giving activity which irradiates the system and expands its surplus energy in the pleasurable exercise of laughter.[1] The wit and he who deals with the ludicrous, however, tread on dangerous ground. The clown perchance may not cause laughter, but may disappoint us so painfully that irritation results. Apart from the danger that the witticism may cut too deep there is the danger that the repressed activity may force itself upon the attention of the hearer before it is designed to appear. In this case the course of thought which is intended to lead up to the latter becomes obstructive, and the result is wearisome: this is exemplified, for instance, in the "flatness" of old jokes. Further, there is the danger that the play around the subject may develop trains of so much interest that the change of thought will produce a shock powerful and painful enough to overbalance the pleasure led up to. We all realise how dangerous it is to treat lightly subjects which may be of sacred interest to others.

Our third minor division relates to:—

C. Pleasures which accompany vividness of presentation.

[In physiological terms these pleasures may be described as due to hypernormal activity of a normally efficient organ.]

Vividness of impression is a well-recognised means of producing æsthetic result in its cruder forms. Barbaric art shows this distinctly, and the art of the masses, even in our

[1] The exercises of laughter are pleasurable in such cases because they involve the action of rested organs. The more serious aspect of things from which we turn to the perception of the ludicrous involves partial if not total quiescence in all those organs which are notably active when we laugh. Laughter is not always pleasurable, as all know who attempt to force it.

day, makes use of the same means. Vivid colouring and contrasts, startling forms and combinations, vivacious rhythms, loudness of sound as in martial music, all are common tools of the popular artist. But we here tread on ground dangerous to permanency—for hypernormal activity, as we have seen, is the basis of pain as well as of pleasure, and pleasure which is determined by this alone must be of a very ephemeral character. So in the higher art this crude means of producing æsthetic effect is not prominent. In a more delicate form, however, we do find it of service to higher art in the stimulation by varied means of the same activities at the same time. The principle here involved is that of "The Unification of the Manifold," which is widely recognised as of the highest importance in Æsthetics.

[In hedonic language it may be stated thus: Two or more elements act simultaneously as stimuli to the activity of some new element, the resulting psychosis being one in which the original elements stand in the background, the focus of the field consisting of this new element which, being stimulated from more than one source, appears in a pleasurable condition of hypernormality.]

If this principle were not over-emphasised by high authorities[1] it would be unnecessary perhaps to call attention to the fact that, although wide in its bearings, it cannot be universal as the cause of all beauty. Fechner, who certainly makes as much of the Unity of the Manifold as is legitimate, acknowledges this; see p. 42 of his *Vorschule*, where he gives several instances which it is not possible to give this explanation. We are evidently surrounded by appearances of unity in manifoldness that do not impress us with sufficient pleasurableness to give the objects producing them the quality of beauty, the slight pleasure which they give being overwhelmed. On the other hand, many beautiful objects appeal to us in which we can trace no distinct element of this unification. Æsthetic effect, indeed, as we shall see, implies more than the vague gentle pleasure which the Unity of the Manifold, as it usually appears, can produce.

I think it must be granted that the mass of æsthetic pleasures is reached by slightly vivid presentations in varied directions, but, as we have so often noted, it is vividness also which leads to Pain.

[1] Confer, *e.g.*, Lotze, *Microcosmus*, bk. viii. chap. v., "As we derive æsthetic satisfaction only from a plurality which may be apprehended as a clearly discerned unity".

[If hypernormal activity be continued after the force stored up in an organ has been exhausted, pain results; hence if this unusual activity be continued for any great length of time, we will have the conditions productive of pain.]

It becomes necessary then for us to consider the means to be adopted to bring about *permanency* of pleasure field, and this brings us to the second division proposed in the beginning of this part.

II. Our problem here is to define the conditions which make possible the attainment of permanence of pleasure (that is, permanence of hypernormal activity in well-prepared organs).

We have already seen (1st) that absence of a content from consciousness for an unusual time suffices to make it pleasurable when it appears; also (2nd) that vividness of impression is an important source of pleasure getting; but (3rd) that the avoidance of continuity of vivid presentation of any one set of contents is a necessity if pain is to be avoided.

[In physiological terms: Rest from action before action in a given organ is one of the conditions to pleasure getting from the content which appears with such activity, or else hypernormality of action in the organ; but the avoidance of continuity of hypernormal action in any one set of organs is also a necessity if pleasure be sought; for such continuity uses up all surplus energy and leads directly to the physiological conditions which involve pain production.]

If, then, a permanent pleasure field is to be reached, a focus is important in our field of consciousness (see 2nd above), but it must shift from element to element (see 3rd above), and this shifting involves new means of pleasure getting (see 1st above). In general, therefore, we may say that the conditions of pleasure *permanence* are the shifting of a focus in consciousness over a wide pleasure field. Let us consider each of these divisions more fully, in reverse order.

A. Width of Field. Pleasure in any one direction being essentially ephemeral, the only means by which we are able to insure *permanency* of pleasure is by having open before us wide opportunities to change the content of our thought. As we have already seen, it is first of all essential that the fulness of our complex mental states should be non-painful; it then becomes important to see that many elements of the complex are capable of developing pleasure. This is important not only because we are thus enabled to shift the focus of attention, but especially because a multiplicity of simultaneous effects thus becomes possible. Lotze, as he

views his consciousness, tells us that the æsthetic effect "is notably (but not exclusively) bound to simultaneousness and multiplicity of impression". It is thus that the Artist groups together as large a number of means of pleasurable stimulation as he can combine without conflict. He endeavours to use at the same time arts of ear and of sight and those which depict more directly the activities of men. The difficulty of such wide combination, however, is very great, and he more often deals with narrower fields; but always does he use every device which may draw into the field of suggestion all associative factors which are not inharmonious and which may add one more to the pleasures given. He does not disdain any element, however likely to pall, if he is able to leave our thought free to turn elsewhere as soon as the pleasurable effect is gone. The suggestion of sense pleasures he uses—but avoids the actual sense stimulus under conditions that may lead to excess or bring painful results in revival. He aims to bring into play the imagination which carries one on from height to height in pleasure-giving flight. It is this direction of effort which leads Lessing to call for an incompletion of detail in the artist's work that the imagination may have room in which to work its expansive effects. We look thus for a fulness of non-fulfilment of exact detail; for an avoidance of strictness of realism—for type portrayal. The artist, moreover, aims to stir up those vague regions of psychic life, the content of which we can scarcely grasp; the regions usually termed Emotional. He produces in his observer an æsthetic horizon which Guyau has interpreted as the essential characteristic of æsthetic pleasure: that "irradiation" which seems to have a centre in some sense impression but which works effects in all mental regions connected with it; effects of so small intensity, of such rapidly shifting content, that there is little of it but the vagueness of an aurora. The artist cannot undervalue even the effects of admiration of his own skill, for though the pleasure gained thus is for a few and perhaps only for his fellow-workers, for them it is not a small pleasure-giving element, and if he holds the admirer by this means but a moment longer, so much the more is his work effective.

Breadth of field without the emphasis of foci implies a widely divided attention which is important. The recognition of the existence of a field in the percipient lacking in definiteness of attention has indeed not infrequently led to over-emphasis of the receptive state—of the passive conditions—for art effect; too little account being taken of

the reactive elements involved. These latter, however, do in fact make up a large part of the æsthetic complex, as our later æstheticians, Sully, Guyau and others, do not fail to recognise distinctly. Guyau, in fact, in his zeal to force the recognition of his view, makes himself appear, some will doubtless think, to take an extreme view on the other side; to over-emphasise the active element.[1] Any work of art which tends to raise a marked attention in one line necessarily excludes pleasurable feeling in other lines, in that it lowers the effect of these other presentations or revivals as components of consciousness at the time. A work of art which can so balance its elements that the observer is kept in a state of nicely divided and still of constantly shifting pleasurable attention, will produce the most widespread, the most voluminous, although not the most vivid, pleasure.

The power of music is often clearly aided by its indefiniteness—its "dreaminess" as we call it, and it seems to me that the great strength of the masters of music has lain in their ability to widen the field of pleasure by the means under discussion. In such a complex art as the opera the difficulty of reaching this balance is very great. An operatic composer of inferior power will not be able to prevent a frequent diversion of attention with consequent loss of fulness. Now one finds oneself watching the stage effects to the exclusion of the music, and again listening to the music with closed eyes, with no thought of the action. In the impression obtained from the best work, Wagner's for instance, I find myself on the other hand very often lost in the totality; all particulars seem to be forgotten in the general effect; the stage actions are not separately emphatic; the suggestion to note distinctly the "motifs" is an intrusion. The crudeness in respect to finer play of thought and emotion which the *plot* itself in his operas show, is probably a necessary element of their power. The development of "plot interest" would doubtless act as a detriment to the totality.

It is perhaps the unconscious recognition of this principle of diffusion of Attention which leads to the popular opinion that the critical spirit is fatal to æsthetic receptivity, and in one sense this is true; although I am free to confess to the belief that what is lost in width of field by the concentration of the critical view is largely gained in the region of intellectual play, and to the critic who knows well his subject this actually prevents his satiety; overcomes the danger of distaste for work with which he must be over-familiar: communication of his thought to others less well equipped, however, is very likely to mar their pleasure.

But width of field has its dangers too, for it makes easy the shifting of one's thought upon lines of pain-giving.[2]

[1] Confer Grant Allen's *Physiological Æsthetics*, p. 37, and Guyau's *Problèmes de l'Esthétique Contemporaine.*

[2] An example of this has already been given in another connexion, where I called attention to the fact that the tone of voice or anything which indicates the animus of the describer or critic will frequently change an æsthetic into a non-æsthetic object for the listener, and *vice versâ.*

Æsthetics, although largely a matter of the complex summation of vague pleasures, needs more than this. To perfection of Art there must be a decided centre of interest flitting more or less lightly over this vaguer field. To the consideration of this point we now turn :—

B. The Shifting Focus. In *Amiel's Journal*, 23rd May, 1863, we read: "All that is diffused and indistinct without form or sex or accent is antagonistic to beauty, for the mind's first need is light; light means order, and order means, in the first place, the distinction of the parts, in the second, their regular action. Beauty is based on Reason." Although we have seen that exclusively Rationalistic views of Æsthetics are not tenable we cannot help agreeing that an object which presents no *virile* interests but merely a field of moderate pleasures soon cloys; it becomes "sweet," as they say in the studio. It is the recognition of this fact, probably, which led Lotze to the theory that Beauty requires the grasp of the ideal through some *definite object*, and Volkmann to separate the Art field from the field of Æsthetics on the ground that the former strikes a definite chord above the merely hedonic field of Æsthetics. For Volkmann this definiteness which most emphatically takes its object out of its environment is the direction in which the Art of the Ancients showed its highest superiority.[1] But if art work must impress us by its force of attention, its centres of interest, these points of intenser activity are points of danger: all pleasures are ephemeral, the more so as they are vivid, and the *shifting* of these centres of interest is of as great importance as their existence. I think we shall find this recognised in certain general principles. First, we may look to find means adopted to retain pleasure in one special direction by arranging to shift attention away from the special field before pain or complete indifference occurs, and back again at the moment when pleasurable recurrence of the content is again possible. This brings before us the great principle of Rhythm.

[Because processes of nutrition are relatively regular the times required for complete recovery after full use remain approximately equal in the same set of organs, and it thus happens that we learn to act at recurrent regular intervals, being thus enabled to hold to a special subject matter for a long time, not only without fatigue, but, if the rhythm be properly timed, with marked pleasure.]

[1] *Lehrbuch d. Psychologie*, vol. ii. p. 357. Confer also Herbart's notion that Beauty is a matter of the relation of the presented thoughts and has nothing to do with such characteristics as Loveliness, Pathos, Laughableness, which are mixed with Beauty in order to give an element of interest.

Accurate rhythms are most notable in music and poetry, but what may be termed inaccurate rhythms are the very ordinary tools of the artist in other lines also. The power of order, in architecture, for example, the value of symmetries[1] generally depend largely upon such rhythms. Instances will be recalled by the reader in all the arts without special example.

Passing to the consideration of the shifting of attention beyond the same field, from field to field, we obtain the well-recognised canon of Variety. Monotony of stimulations gives us first indifference and then the positive pains of fatigue. If the content of consciousness be constantly changed, however, the chances of pleasure gain are greatly increased; if a Unity be recognised in the Variety, on the principles already discussed, we have an added pleasure to that gained by the shifting of the centre of interest. Variety, however, like all the means of pleasure stimulation, is likely to be carried too far. Variety of pleasurable exhaustive stimulation will eventually aggravate the trouble we attempt to correct through variety, by making painful *every* activity in our field. An example of this we may all recall in the craving for total rest experienced after a visit to some great exhibition where competitors vie with each other to attract attention to their wares by varied devices looking to pleasure giving. We often find people remarking that they enjoy an art work (especially is this true in Architectural criticism), because it is *simple*. The distracting elements in the varied objects which they have examined in the hope of gaining pleasurable effects have disappeared, and have left a quiet delight not far removed from the so-called pleasures of rest.

Contrasts, already discussed, also gain their effects through change of region of stimulation. Where notable, however, they depend upon vividness (hypernormality of action) for their results, and must be used with care lest they act exhaustively.[2] The same thing may be said of those vivid

[1] Symmetries also may be held to produce effect through the hypernormal stimulus involved in the recognition of the Unity of the Manifold. It may be well here to remark that the search for symmetry in theoretical form which has led many a metaphysician astray has probably had its basis in the æsthetic demand of his nature.

[2] The mechanism of this may not improbably be something like this. If attention be turned in one direction for a time, automatically the systemic activities tend to bring nourishment especially to those organs which are active, and those not active become well prepared indeed (from such nutrition as is not called for elsewhere), but only through failure of stimulation and *notwithstanding* the calling off of the nourishment supply in other directions. When those second-element

elements of novelty which give the value to what we call the Picturesque. We cannot use these means to gain æsthetic result unless we are able to turn ourselves away from their stimulation as soon as we begin to be weary. Hence, we must avoid the use of the picturesque in our homes and must deal most carefully with strong contrasts in the decoration of rooms in which we wish to live, or in buildings which we are compelled to view constantly.

On the whole it appears that the safest means of producing lasting æsthetic results will be reached if we choose that succession of contents, each of which is naturally led up to by those which have preceded.

[In physiological language : we will gain our result best if we choose such successive impressions as will stimulate organs that have been best and fully prepared for action by the associative nutrition (if I may so speak) connected with the previously stimulated activities.]

From this we may argue to a wide æsthetic law which may perhaps be called the *principle of the satisfaction of Expectancies;* a legitimate description of the means of gaining æsthetic result here touched upon as all such movements of thought appear in retrospect to be expectation phases which are fulfilled.[1] That this canon, however, although of wide application, is not a universal one for Æsthetics, is apparent when we consider that our normal, indifferent, scarcely conscious life is largely made up of these fulfilments of expectation, not recognised as such to be sure, unless their legitimacy is questioned in one way or another, and unrecognised because the ordinary reaction is immediate and thus not involving any marked transformation of surplus potential into actual energy, *i.e.*, not involving pleasure.

In general it appears, then, that the great artist is one who is able to make use of the principles above enumerated.

organs which have been inactive are stimulated in *contrast* they answer with pleasure, and their action tends to withdraw the nutritive supplies from the set of organs which had given the first elements of the contrast, so that these first-element organs get less than their normal nutriment ; and if we stimulate them again in turning back to the first element, we find a set of organs in some degree prepared, to be sure ; but less well prepared for activity than were the second-element organs.

[1] Confer Bergman, *Ueber das Schöne*, p. 132, where the value of arousing expectation and allowing its satisfaction is discussed and carried out to the explanation of the delight obtained in curves, &c., &c. The same argument suffices to explain the pleasures reached by the contemplation of *nuances* of all kinds.

Having avoided pains, having created his wide field of non-pain, he strives to produce a wide summation of pleasurable contents. Further, he so arranges the shifting of attention that as one impression fails in pleasure giving, another equally enjoyable appears through natural connexion to supply the place of that pleasure which is fading away. Moreover, by compelling a judicious recurrence of a special interest he marks a Unity of the Manifold, which Unity gives to his work its distinctive character.

I have already named the great works of Wagner in illustration of the poise of attention; but Wagner's power goes beyond this; wherever we break away from width of effect and allow our attention to concentrate upon details we there find a gem of melody, a delicious progression, a richness of harmony or a masterful bit of orchestration; and if we turn from the music we are still thrilled with emotion or impressed by some profundity of thought. But withal, these details are not allowed to efface the value of the special marked development of the work. Shakespeare's wonderful drama, to take another example, shows us great width of interest, yet always some figures of *special* interest from one to the other of which our attention is artfully shifted without loss of that background of delight which is felt apart from the specially forceful impressions. His genius manifests itself further in the ability to preserve a proper balance, so that using wealth of subordinate elements, no one of them is allowed to rise to sufficiently great importance to mar the general movement of the drama, to detract from the importance of the character whose action is to thrill our souls. The great painter treats his subject in like manner; he gives us a wide, vague, pleasurable background in impression or associative revival trains; a wide field of more marked pleasures over which the centre of interest shifts; without loss of the prominence of the central motif to which especially he would compel our recurrence.

In closing, I think it desirable to take a retrospective view once more. It has been shown in this article, I think, that the principles of practical æsthetics are in harmony with the hedonic æsthetic theory which I defend; and more than that, in accordance with the theory of Pleasure-Pain which I have elsewhere explained. The sketch of æsthetic principles which we have been considering, incomplete and inadequate though it may appear, has thus at least served to accumulate evidence in corroboration of that Pleasure-Pain theory. Nor can this be counted as a small gain; for a theory which on its physical side must be expressed in terms of necessarily vague physiology, and which is difficult to put to the test of experiment, must gain its acceptance, if it is to gain it all, by cumulative evidence such as I have here given; for if it be claimed that the evidence presented is not crucial, at least it must be acknowledged that the value of the theory is vouched for in no inconsiderable degree

by the fact that in pushing it to its conclusions, serious oppositions have not been developed.

Again, I wish to say, however, that I consider the physiological theory of less moment than the purely psychological. I have shown, it seems to me, at all events that the physical basis of pleasure and of pain is determined by relations of a very general character which may belong to any organic activity, and that Pleasure and Pain must therefore be treated, psychologically, as qualities of a very general nature which may under proper conditions belong to any content, as appears also from purely psychological evidence; that they are, therefore, not to be looked upon as the outcome of any special and peculiar mentality, that they are not *sui generis* among psychic phenomena, that they are grasped mentally very much as other qualities of a general character are grasped. We recognise that a Content has Pleasure-Pain quality, much as we recognise that a Content has Intensity; in one and the same general manner all qualities in our psychic stream gain recognition.

III.—THE RESPECTIVE SPHERES AND MUTUAL HELPS OF INTROSPECTION AND PSYCHO-PHYSICAL EXPERIMENT IN PSYCHOLOGY.

By A. Bain.[1]

The resources at our disposal, in imparting to Psychology a scientific character, are now numerous. At the head, must still remain Introspection, or the self-consciousness of each individual working apart. This is the method principally employed since the first beginnings of the science in Greek philosophy. It does not exclude, and never has excluded (as we see in Aristotle), references to objective facts and appearances, deriving from thence a great addition both of insight and of certainty.

In the enumeration of means now available for the study, are included observations (and experiments) directed upon Infants, upon Abnormal and Exceptional minds, upon Animals, and upon the workings of Society, or collective humanity. To these are added Physiology, and, last but not least, Psycho-physical experiments.

The present paper will be mainly a comparison of the relative spheres and mutual helps of the two extremes of the enumeration—Introspection, on the one hand, and Psycho-physics, on the other.

Introspection, considered as a source of knowledge, is a contracted portion of the Subjective side of our being; just as cognition of the outer world is a limited part of the total sphere of sense objectivity. In our desire to know ourselves, to frame some conception of the flow of our feelings and thoughts, we work at first by Introspection purely; and if, at a later stage, we find other means of extending and improving our knowledge, Introspection is still our main resort—the alpha and the omega of psychological inquiry: it is alone supreme, everything else subsidiary. Its compass is ten times all the other methods put together, and fifty times the utmost range of Psycho-physics alone. A very few references will suffice to make good these sweeping assertions.

[1] Read at the International Congress of Experimental Psychology, held in London in August, 1892.

Beginning with the grand Metaphysical issue—Thought and Reality, Knowing and Being—there is no alternative to our individual self-consciousness. If that problem be now approaching its termination; if the various conflicting solutions have been as well stated as they are soon likely to be, the resort all through has been to the introspective analysis of a long succession of self-observers. At no point has objective expression, physiology, the observation of infants, of the insane, of animals, least of all Psycho-physics, offered a single suggestion or cleared the way by one iota. Considering the enormous significance so long attached to this great issue, its exclusive dependence on Introspective method speaks much for the ascendant position of that method in our inquiries.

Next in attractiveness, and acquired importance, is the wide and various domain of Origins. To trace back the experience of the mature individual, compounded, as it must be, of many prior psychical occurrences in our history, has occupied, and still occupies, a large share of the attention bestowed upon psychical themes. This is not so exclusively dependent on Introspection, or on any single method. Self-conscious analysis must indeed take the leading part, as is easily made manifest.

In exploring the primary elements, and early stages of our notions of Space, Time and Cause, we first endeavour to discern in each some simpler ingredients still distinguishable in consciousness, as when we think we identify in Space a motor or muscular element, or according to some, an element of massive sensation, as the essential circumstance. This is pure Introspection; and the evidence lies with each one's inner consciousness. Experiment has also been appealed to, and although not as yet conclusive, may one day become so. The extensive researches on the nature of binocular vision, with reference to our sense of solidity, are very much in point, and appear to remove the problem from the domain of Introspection, and to claim it as a psycho-physical trophy. This would be so, if experimenters were agreed, and if all difficulties were overcome, which is more than can yet be said. The observations on the blind, when made to see, are to this hour the subject of contradictory interpretations, in great part due to an uncertain element of heredity which defies our means of elimination, and which must cling to all our researches into origins.

Most valuable, at this point, are the observations on Infancy, which serve other purposes as well. But the upshot of the whole is to estimate our endowments at birth with a very wide margin.

If we proceed to the Emotional part of the inquiry, we are equally, if not still more, in the vague. We know that there are primary modes in all the leading emotions, as well as in the great field of our sympathetic nature; infancy proves thus much, but leaves us in a hopeless uncertainty as to the precise definition and amount of those original constituents.

Thus, then, if Introspection fails us in the search after origins, the other methods cannot be said to make good the deficiency. They do not seem to be as yet on the way: they are crossed at every turn by an inscrutable contingent in the shape of instinct, now stated as heredity.

The two departments I have now quoted have hitherto been in the fore-front of psychological inquiry. True, their importance is in no sense practical: they do not yield any fruitful applications in human well-being. Their place is in the transcendental region of speculation, in the depths and mysteries of the Universe. The fascination exerted by them has enrolled them among the studious pursuits of mankind, in the total absence of any obvious bearing on our practice.

Interpenetrating the two departments now noticed, is the *Qualitative Analysis* of our mental powers at large, the decomposition of the complex products (and the largest part of us is complex) into simple elements. This has always been regarded as a leading aim in psychological study, and it has achieved a certain amount of success, although we may not be agreed as to that amount. Be this as it may, if the end is desirable, if it is in any way helpful in the struggle of life, and if it is within the range of our ability, the means, and almost the only means, is Introspection.

In the lower region of Sense and Instinct, the analysis has been chiefly due to experiments that may properly be styled Psycho-physical. The brilliant discoveries connected with Hearing and Sight could not have been made otherwise. Introspection could not have brought about the decomposition of musical tones, or the successive phases of our knowledge of the spectrum. Our subjective consciousness is always present as one side of the phenomenon: the other side is objective and experimental. This is the region where mind and body are most palpably associated, and where laws of connexion can be arrived at; physical experimentation being needed for the purpose.

The department of the Expression of Feeling is equally, if not more, illustrative. The analysis that has been conducted under this head is the decomposition of the complex

manifestations of the features, voice, and movements generally, into primary elements severally connected with our simplest feelings. We can specify the separate muscles entering into the combined display of joy or sorrow, and can endeavour to assign the precise significance of each on the mental side. We know the meaning of the frown, the raising of the eye-brows, the elevation and depression of the angle of the mouth, and, more obscurely, the elevation of the nostrils. Plain unassisted observation has done all this: the multiplied interrogatories of Darwin addressed to observers scattered over the world, his references to infancy and to animals, have added something to our more familiar experience in the way of settling the significance of the various details of facial expression. Not satisfied with this, however, the attempt has been made to constitute it a question of Origins. How did we first come by these characteristic modes of showing our feelings in outward display? They are now instinctive and hereditary, in what way did they take their rise? The matter is still a question of the connexion of Mind and Body, and our wish is to generalise the appearances into higher laws of connexion. Darwin has included this in his aims; yet he has nothing in the way of experiment to fall back upon. By an effort of speculative daring, he has endeavoured to assign a few general laws of operation that may have originally given birth to the manifestations that we are now familiar with, and there the matter remains, an hypothesis and nothing more.

When we pass from the domains of sense and outward manifestations, to the depths of our inner nature—Intellect, Feeling, Will, we are landed on Introspection almost exclusively. The division of the mind as a whole into the three usually recognised powers; the further analysis of the Intellect into faculties or otherwise; the ultimate rendering of Will, Attention, Desire, Belief: the resolution of the vast plurality of our Emotional nature into the fewest elementary constituents; the problems of Beauty and Fine Art; the foundations of Sympathy and the rendering of Conscience, can be approached mainly through Introspection. These few general designations are wide enough to comprise nearly the whole of the mind; their outgoings are beyond reckoning. If their sole means of investigation is the introspective consciousness, our estimate of its sphere relative to the other methods is not exaggerated. That hopes have been formed of penetrating these depths by the new instrumentality is shown in the attempts to grapple with Attention

and Association, and to arbitrate between contending views, by direct appeal to experiment. I do not consider these attempts as futile; quite the contrary. I am content with affirming that they carry us a very little way into the arcana of our being; that they only cover ground accessible to Introspection, and that they may to a slight degree correct some of the inadvertencies of the introspective observer. This might be shown if I had time to criticise the experiments upon Association intended to determine and establish the ultimate associating principles. I maintain that Introspection is perfectly competent to deal with this problem, and the other method, whose legitimacy I admit, not more so.

It would be easy to expatiate on the boundless realms of human thought and feeling where Introspection is our chief instrument of exploration. It is, however, more profitable to turn aside for a little and dwell upon the best manner of employing the instrument. And first let us note, that the inquirers of the past have never neglected the help of objective signs, that is, outward manifestations through the expression of the feelings, the outgoings of the will, and the revelations of language. At the same time, we may freely admit that looking at the method in its widest compass, it is very far from being perfectly handled. Hence the introduction of the new methods, borrowing as they do the more accurate ways of physical science, should put the Introspectionists on their metal, should stir them up to greater efforts, and to more advanced precautions for getting at the facts of our inner being. It would of course take a *Novum Organon Psychologicum*, to treat this theme adequately. That observations should be made with care, that they should be noted down carefully on the instant, that they should be repeated under various circumstances, that different observers should compare their results—is all a matter of course, if we aspire to work after the manner of science. Moreover, the logical procedure, applicable equally to introspection at the one end and to psycho-physical experiment at the other, manifestly involves care and precision in the selection and employment of terms, adequacy in the inductive basis of generalities, and whatever else is common to scientific workers at large. Beyond this, however, is the far more subtle condition, corresponding to what is called, in Natural History, philosophical classification, meaning the choice, from among various generalities, of those that not only cover the widest region of facts, but that carry with them the richest connotation.

Another digression may be allowed before concluding our main issues.

Students of Psychology as yet have scarcely ventured to set before their minds the final ends of the study in the *economy of life;* still less have they been guided by these in choosing the topics for special inquiry, experimental or other. It might seem a dangerous fascination to be lured by the prospect of some immediate advantage; the history of science affording various striking instances of researches that yielded their fruits only in the course of long ages. There are obviously two extremes to be guarded against, and, between, a safe middle way, if we could light upon it. Problems ought to be found that are apparently within reach of solution, and that are laden with obvious and valuable applications to practice. Some of these have already come within the scope of the experimental and psycho-physical inquirer, or, if started and sketched by introspection, are susceptible of greater precision by the help of these other methods.

I now revert to the estimate of Introspection as the medium of Qualitative Analysis in Psychology. In the cases where it is everything, as in the deeper Emotions, and in Dreams, no more needs be said. There are other cases, and those very numerous, where the steps of a truly mental operation are fully disclosed to outward observation, as in language, oral and written, in the dramatic displays of emotion, and in purposive action upon outward objects. The laws of our inward being are very fully revealed in such cases, and may be generalised with safety and confidence. Yet there is a something wanted, and that something Introspection can supply. Outward expression, however close and consecutive, is still hop, skip and jump. It does not supply the full sequence of the mental movements. This entire unbroken sequence is revealed solely to Introspection. Now it is a well-known position of the Logic of Induction that only empirical or secondary laws can be arrived at in such a situation. The intermediate links of the operation must be filled in and generalised in order to reach the primary or highest laws. Yet further, a fact partly known by outward signs is known in all its circumstances and surroundings only by introspection. This is true of the intellectual trains, which lend themselves favourably to outward expression. We can read any one's thoughts in their flow of verbal expression; yet we need to supply much by transferring to ourselves the ideas that the words

suggest. The important laws of the succession of thought are exemplified in every one's expressed intellectual trains, but we must check and fill out what is thus conveyed by reference to inner consciousness. Still more decided is this necessity of self-reference when we are dealing with the ongoings of the emotional life. The helps of outward show, and still more of experiment, are of the utmost value here also; but their operation is merely at the circumference, while Introspection reaches the centre.

It will be a great day for Psychology when all the numerous complex facts of mind can be resolved into primitive or simple elements. Even if one-half or one-third of our mental workings could be so treated, we should have matter for congratulation. Yet an equally vast problem remains, namely, the *Quantitative Analysis*, the measurement of degree or amount, in our various states of feeling or emotion. It is only in so far as this is possible, that we are entitled to speak of our subject as a science in the proper sense, that is, a science that can yield applications to practice. The difficulties are great: the aim can never be perfectly realised; nevertheless even a partial success will bring its reward. Introspection, pure and simple, is least able to furnish precise estimates of degree, but is very far from being wholly impotent. Even our subject states can be computed by number of successions, and by duration in time; both circumstances revealing to us differences of emotional intensity, which is what we are mainly bent on arriving at. A further resource is furnished in the intellectual situations due to the varying intensities of our feelings —a fact recognised to some extent in our every-day practice, and in poetry (see Hamlet's test 'man delights me not'), but capable of far higher developments than we have yet seen.

When we avail ourselves of outward signs, our means of measurement approach to the precision of the objective departments of knowledge. The manifestations of feeling go through a scale of emphasis, in energy of gesticulation and in the choice of terms. When we are dealing with the same personality in a like physical condition, the estimate of symptoms of emotion is nearly perfect, supposing there is no effort at concealment. We do not fail to employ this criterion for guiding our conduct towards others.

A great enlargement of this resource is promised by the methods of psycho-physics. It has already taken the form of Anthropometry, in which several investigators, notably

Francis Galton, have done good service. Prof. Cattell is vigorously following in the same track. The comparison and estimate of characters are the direct offshoot of this research. Unless, however, subjective knowledge is brought to bear at the same time, it will soon reach its term.

The measurements needed for Psychology proper may be summarised thus. First, a mode of estimating the intensity of individual feelings in special moments, and of recording that estimate: each of us operating on self. Next, a similar estimate of the states of other persons, necessarily more difficult but yet possible. Thirdly, the generalising of those estimates for definite circumstances, by way of arriving at provisional laws of cause and effect in the region of feeling. Fourth, a summation of occasions of feeling through time, so as to deal with it in masses, as regards both quantity and intensity. This last effort is likely to be scouted as impracticable and illusory. The reply is, that we cannot evade the operation if we wished. It is carried out at present in the loosest possible way. We constantly proceed upon totalised estimates of the pleasures or pains of certain lines of conduct, and feel no want of confidence in our estimates. Yet there must be a better and a worse mode of going to work. If Psychology is ever to be of service to mankind, here is the opportunity. It is not difficult to show that the habit of psychological study marks a great improvement on our commonplaces. As a single illustration, I would refer to the problem of Pessimism, popularly treated, and as seen in the judicial handling of Professor Sully.

The great life problems that engage the attention of mankind manifestly take the form of estimating differences of value, with a view to choice or preference. In ethics, economics, in rhetoric, we have to arbitrate between opposing considerations and motives, and, whether we will or not, must assume some measure of their respective amounts. To arbitrate between the Stoic and the Epicurean theories of life, we must decide questions of comparative worth; and progress in psychological knowledge should prove its genuineness by coming to our aid.

I have been talking exclusively from the point of view of Introspection, and should now sketch the Psycho-physical lines of attack, with a view to the final aim of the paper. In this, I have to observe a severe brevity, if indeed I must not be content with assuming it to be perfectly known to my hearers, and merely cite a few of the aspects relevant to my purpose. The whole region of Sense has profited largely by

the inquiries properly designated Psycho-physical, and in Sense, we have the first groundwork of Intelligence. The completing portion of the structure—the Intellectual laws—has also been attacked by the like mechanism. The region of Feeling proper—pleasure and pain—whether Sense or Emotion, has been almost untouched, notwithstanding that this is the region of the great life issues. The truth is that Psycho-physics cannot here take the lead, although it may become a valuable ally. Even where it does assume the initiative, Introspective Psychology must step in to give completeness.

Perhaps the shortest course now is to single out a few important researches where both methods are applicable. I begin with those most adapted to experimental treatment, and already so treated.

1. We cannot do better than select the Muscular mechanism, the primary instrument of our activities for all purposes whatsoever. It has been ascertained, for one thing, that muscular expenditure, instead of being a uniform discharge of energy, like a waterfall, is an essentially fluctuating current, like the wind; and the proper management of such fluctuation is the economy of our strength. In order that the smallest outlay of power may yield the greatest results, regard must be had to this characteristic; and experiment has not been wanting for the purpose. I may mention such economies as these:—The best angle of ascent for rising to a given height at the smallest cost of fatigue; the pace of movement yielding the greatest result with the least exhaustion; the interposing of rests at well-chosen intervals, and in proper amounts; the regard to be paid to our fatigue sensations, so as not to be misled by the occurrence of these at an early stage, while there is still a large reserve of working power. Throughout this whole field of properly experimental observation, important practical guidance can be obtained such as the experience of the race has not yet furnished.

The exercise of muscle carries with it nervous expenditure from the motor centres, a concurring factor in muscular work. It is clearly possible to estimate this also by proper experiments. Nay more, the consideration of nervous waste and repair, while allied in the first instance to the department of muscle, may be extended to nervous activity in general, that is to say, to the workings of the nerves in the higher sphere of ideas. We are thus carried a far way into the depths of the mind. The question needs to be attacked

on various sides. Introspection comes decisively into play, inasmuch as our states of nervous freshness, fatigue, and recuperation, are all clearly revealed to consciousness, and we can also, whether by consciousness or by observation, take cognisance of causes, consequents, and adjuncts. While the introspective inquirer can bring to bear the highest resources and refinements of his method, the experimenter can work on lines proper to himself, and so contribute his share to the vast problem.

2. So far, we have merely broken ground upon the physical side of our being, taking advantage of the unquestionable physical concomitants of our ideal life. A move in advance has next to be made by entering on the great Intellectual problems, as expressed in strictly psychological form. In short we have to propound, for definite and many-sided inquiry, the theory of Intellect as expressed by such terms as Memory, Retentiveness, Association, Reproduction, and the like. Here Introspection undoubtedly has the largest share, but not unaided by other means. Whereas a considerable range of so-called experiment and observation, involving pure objectivity, has hitherto accompanied the introspective study, and may continue to be prosecuted with ever-increasing precision, attempts are now made to bring in machinery of the kind commonly understood as psycho-physical. Thus we have seen the employment of the reaction-time apparatus in the service. In order to supply the proper interpretation, as well as the proper qualifications of the use of this apparatus in the sequences of thought, the way must be prepared by ascertaining everything that introspection has hitherto been able to reveal or suggest. The minute linkings in our thought successions are open to introspection and to that alone; the same being true of the concurring mental modes that are not strictly intellectual, namely, Feeling and Will, to overlook which is to falsify the situation.

3. A wide and important region of intellectual operations, falling within the circle just designated, comprises the momentary fluctuations of ideas in and out of consciousness. So far as I am aware this department of our mental activity has not been adequately resumed under any general designations. Many phrases have come into use in connexion with it, such as "threshold" of consciousness, recency of impressions, area of consciousness, lapses of attention,—yet much remains to be done in the way of bringing the whole under comprehensive statements. Introspection, with its proper auxiliaries, needs to be more and more plied to bring this

whole field into its proper relationship with the wide realm of Ideation, Association, Attention. At the same time, the resources of our psycho-physics are now profitably directed upon various aspects of the vast problem. Indeed, one could point to observations already made which, duly interpreted, would impart precision to our language in dealing with the facts; while it can be made clear, that the psycho-physical mode would have its value determined by its co-operation with the best results of the introspective survey.

4. The determination of the conditions of permanent association, or enduring memory, as against temporary, or so-called "cram," is a matter for careful inquiry, the introspective method being backed by experiment, whether of the kind that has always been taken into account, or of the more special, technical, and organised modes of procedure peculiar to the modern openings. It would be a step gained, if any single person were to reduce his or her individual experiments to definite statements of time and circumstances, as connected with retention, on the one hand, and obliviscence on the other. A concurrence of observers proceeding in like manner would make an approach to the establishment of general principles, with suiting qualifications.

To refer briefly to some other great issues now waiting solution, and partly undertaken already, I would place in the foreground, as obviously within reach, Plurality of simultaneous impressions in every one of the Senses. This is one of the preliminaries to the discussion of many Intellectual problems. Attached to it is the question already adverted to, of the operative power of impressions, while momentarily standing aside from the conscious area. For these problems, Introspection, at its utmost stretch, needs to be helped out by experimentation; while the delicacy of tact in the self-conscious observer is also of the utmost importance.

One of the most pregnant issues in the whole field of Psychology is the swaying of the will by motives outside of pleasure and pain, otherwise called the Fixed Idea. The experimental test is available here. A strong light in the room arrests our gaze, even when painful, as shown by the relief afforded when it is screened. There is, however, a point of intensity when the pain overpowers the moth-like fascination. Here are two limits that experiment can enable us to assign. A large number of individuals need to be operated upon, and the results compared. I do not know of a more important clearance in the doctrine of the Will.

Sight is not the only sense where the point in question is raised.

Until there is a more general agreement than at present on the analysis of the fundamentals of the Intellect, it is premature to recommend a searching investigation into the working of Similarity in Diversity, on which hangs, as I conceive, the inventive powers of the mind, just as much as simple Memory reposes on the adhesion of conjunctions in time. Both Introspection and Experiment are serviceable in this great field ; and the employment of either is a stimulus to the other. The Psycho-physicist should be familiar with the problem as given in self-consciousness ; and the Introspectionist should, here as elsewhere, welcome and assist in interpreting well-chosen experiments, even if he does not make them for himself, the more desirable arrangement.

For the present, however, there is abundant scope for Introspection, pure and simple, in roaming at large over the accessible facts of Psychical life, so as to check the received generalities, and to replace them, if need be, by others of an improved cast. There has been, in the past, a gradual, though slow progress in this field of labour : we hope to see acceleration in the future, with or without the aid of the psycho-physical machinery. By the nature of the case, the initiative, in the more fruitful lines of inquiry, will be most frequently taken by Introspection, which also, by its powers of analysis, will still open the path to the highest generalities of our science.

IV.—"MODERN" PSYCHOLOGY: A REFLEXION.

By J. Ward.

The modern era generally is supposed to have begun with the fall of Constantinople, but the "modern" psychology *par excellence* was unheard of till some three or four years ago. The founder of it, though he does not belong to it, may be said to be Prof. Wundt, from whose *Physiologische Psychologie* it has got its ideas, and in whose laboratory some of its chief exponents were initiated. It is in the main an old story: the disciples "rush in" where a master "fears to tread". Much as Locke, we can imagine, would have expostulated with the French Sensationalists and Materialists who professed to develop his teaching, so does Wundt—with exemplary moderation and temper—seek to reclaim these wayward young experimentalists, to whose doctrines the name of Psycho-physical Materialism has been given. A younger generation that has witnessed and in some degree aided the rapid advances of experimental psychology is confident—and quite naturally so—that a method that has accomplished so much can accomplish a great deal more, perhaps everything. Certain reservations in favour of metaphysics, epistemology or "transcendental psychology" are allowed, sometimes for decency's sake, but often with obvious irony. The new and the old ways of gathering the facts of mental life, we are told, are diametrically opposed: "the old philosopher betook himself to a quiet retreat and *thought them out*, the psychologist of to-day in the laboratory carefully measures and records his experiences". Brain-processes furnish the touchstone of truth, the solid ground of nature for the "modern" psychologist: such mind-processes as he can correlate with these, either actually or hypothetically, he accepts as fact, and any that he cannot he is ready to stigmatise as fictions or "Hilfsbegriffe," and to relegate to metaphysics, in other words, to cast aside as draff or dreams. For I take it we may assume that the word metaphysics in this connexion is almost always used dyslogistically. The outcome is that we have the psychology of Hume reinstated. It is the triumph of Associationism.[1] Sensation, Retentive-

[1] *Cf.* Mind, xv. pp. 234 ff. for a jubilation thereat *apropos* unfortunately of a very indifferent performance.

ness, Association by Contiguity—these are to be our ultimate and sufficient psychological conceptions: the facts of feeling and conation are resolved into facts of sensation; and all mind-processes held to be not merely conditioned but explained by brain-processes, which they accompany as epiphenomena or "Begleiterscheinungen". It is not so long since the world was shocked at Lange's *mot* about a psychology without a soul, but the "modern" psychology is a psychology without even consciousness. "*Content* of consciousness" as much as you like, but consciousness itself, consciousness as activity, is not our affair; we leave that to metaphysics, say our "modern" teachers.

By this sort of thing Prof. Wundt has recently confessed that he is astounded and depressed.[1] His depression one can understand; but there are several considerations that might help to lessen his astonishment. These young psychologists start from the brain, and look to this for their clue. "Let us then," says one, in a recently published text-book, "seek for what is psychical where we find it conjoined to processes of the nervous system instead of setting out from a definite division into three faculties or any other such hypothesis." In other words: Let psychological analysis conform to brain-physiology and await its verification from this. And is Prof. Wundt's own procedure so very different? Though he has completed the circle of the moral sciences in his writings, all the psychology he has given us is "physiological". He, too, begins with brain and localises—to be sure in a very tentative fashion—the organ of apperception, *i.e.*, of thought and volition, before he has ascertained psychologically in what thought and volition consist. And, when he does come to treat of them, uses language concerning them that makes it difficult to conceive how there can be an organ of apperception at all. Since 1874, when the *Grundzüge* first appeared, a whole generation of psychologists has arisen, and it is not too much to say that this work of Wundt's has been the main pabulum of the majority, and especially of those who are the busiest and most aggressive, and go down to do their work in laboratories. One has only to turn over the pages of the *Philosophische Studien* to understand the psychophysical bias that Wundt has brought about. No wonder his pupils have adjusted their minds to their psycho-physical environment: in this they have found life and movement and enthusiasm, while psychologies of an older day lie dead and

[1] *Phil. St.*, vi. p. 382.

dusty on the library shelves. But if physiological psychology is to be kept within due limits, it must be *preceded* by a psychology that is not physiological, one in which the fundamental conceptions of the science are systematically and independently ascertained. What, for example, have religious feelings or the free will controversy or metaphysical hypotheses concerning the essence of the soul to do with physiology? Yet Wundt brings them all under the same covers as squinting, nausea, and catalepsy. The contents and even the arrangement of his book remind one more of a store in the backwoods than of a scientific treatise by one who feels he can teach the world about method. One can only suppose that, as has been the case with other great works, the arrangement of the book is the history of the author's mind. At any rate it is not surprising that young psychologists eager to be "modern," and introduced to the study of mind by way of brain sections, the frog's leg and Hipp's chronoscope, should find Wundt clear only so long as his psychology is physiological, and should speak with such general contempt of his "theory of apperception".

Take his own definition of sensation: Sensations are "those states of consciousness which cannot be analysed into simpler elements". Is it not plain that, according to such a definition, feeling and volition are either sensations or complexes of sensation, or are not *states* of consciousness? But this definition, which has appeared unchanged in the last two editions of the *Grundzüge*, its author now seems disposed to amend:[1] "sensations are to be the ultimate elements of such contents of consciousness as we refer to external objects". His own usage, however, does not conform to this definition: on the contrary, it does much to justify the resolution of feeling and volition into sensational elements, of which physiological psychology can take account, *plus* a purely hypothetical conception, to which it can have nothing to say. Thus he talks of an "immediate sensation of Activity" (*Activität*), and, again, of a "sensation of spontaneity" with which is conjoined that activity (Thätigkeit) of consciousness that is the essential attribute of apperception or will.[2] Then, again, he tells us that "in all volitional activity (*Willensthätigkeit*) we have to distinguish the more or less constant phenomenal accompaniments (*Begleiterscheinungen*)

[1] In the first edition (p. 274) the pure sensation is described as "the element out of which all the other products of consciousness proceed".

[2] *Ethik*, p. 380.

from this essential attribute of will (*viz.*, Thätigkeit)". Of these phenomenal accompaniments he enumerates two classes: (1) sensations of effort or strain (*Spannungsempfindungen*), and (2) feeling.[1] The former furnish "the nearest, if not the only *measure* of the energy of our volition," while the latter, as we learn elsewhere, is "the *mode* in which apperception reacts". The following sentence is then immediately added to make this mode clearer: "Apperception depends, as we shall see, on the one hand, upon the stimuli then at work; and, on the other hand, upon the total state of consciousness, how it is made up, that is, by present impressions and prior experiences. . . . If we would describe more nearly what it is that we experience (*empfinden*) in ourselves when pleased or pained we cannot do this more concretely (anschaulicher) than by denoting pleasure as a straining (streben) after, and pain as a straining against, an object."[2] Now as to this measure and these directions and their determinants in consciousness—we are equal to all these, say the "modern" psychologists, but we are not equal to the outstanding activity (Thätigkeit) which apparently is not *in* consciousness as part of the total state, but is first affected by that, and then reacts upon it. We object to recognise as a fact of consciousness what has no assignable place in the content of consciousness. To this Wundt makes a reply which may seem to many a hopeless and complete surrender: "You refuse to recognise this 'moment' of activity which is the one essential characteristic of will, because it can't be pointed out as a self-subsistent content of consciousness that may be isolated at least *in abstracto*, as sensations may be. But manifestly this is just what the conception of activity excludes. . . . The psychologist who denies it is under the dominion of a prejudice like that of the adherents of the Aristotelian physics who opposed the Newtonian conception of gravity, because gravity only manifested itself in processes between bodies and was not an independent entity." Now it is a great point with Wundt to maintain—and in this both he and the "modern" psychologists agree—that psychology has to do with nothing but processes or events. Turning then to his parallel case of physics, it is, I presume, sound doctrine to say that magnetism, heat, and all the so-called natural forces are equally with gravity processes between bodies; and that—while the difference between one

[1] *Philosophische Studien*, vi. p. 390.

[2] *Grundzüge*, i.[3] 535.

physical process and another is observable, is fact—force, as that which causes matter to undergo change at all, is a notion outside the facts. If Wundt's "activity" is to be understood as an activity which is generically the same in all psychical processes, then its treatment by the "modern" psychologists does *not* put them on a par with those early objectors to gravity but rather with modern objectors to force, such, *e.g.*, as Prof. Tait. Wundt's condemnation of them as "deeply sunk in the naïve substantiating of concepts" would so far seem to recoil upon himself. And this the more because Wundt in many places assimilates the conceptions of physical force and psychical activity.[1] Yet in this latest article he becomes almost pathetic as he protests how often he has had to insist that "will and apperception can have absolutely no reference save to definite internal processes somehow distinguishable from other processes by assignable characteristics". But why then does he degrade the only specific characters he can assign them to the rank of more or less constant accompaniments of the "one essential characteristic" which he cannot help setting over against "any given content of consciousness" as a process by means of which this content undergoes definite changes? The "modern" psychologist like the modern physicist elects to confine himself to the definite changes and the phenomenal accompaniments. These, he holds, are either sensations or comparable to them as being variable elements within the contents of consciousness which are somehow distinguishable.

If, then, Wundt prepared the way, why did he not follow: or if his frequent exposures of the error of it are so evident, why is he unheeded? It is a case of one of many perennial controversies in which neither side can convince the other. Unhappily this controversy has no generally recognised name. The side Wundt combats have been variously styled Sensationalists, Associationists, Presentationists. He himself proposes to call them Intellectualists on the ground that they identify feelings and volitions with cognitions. But this term, which with us denotes the opposite of Sensationalist, would certainly prove misleading. Presentationism or Associationism seem better names for a doctrine the gist of which is that all the elements of psychical life are primarily and ultimately cognitive elements, and that all the laws of their combination are reducible to

[1] *Cf.*, *e.g.*, the section in his *Logik* (i. pp. 551 ff.) headed: "Der psychologische Kraft begriff".

association. It was Hume who first raised the issue clearly, as, *e.g.*, in the section of his *Treatise of Human Nature* in which he affects to prove that of self we have no "real idea". "The mind," he says, "is a kind of theatre, where several perceptions successively make their appearance; pass, re-pass, glide away, and mingle in an infinite variety of postures and situations. There is properly no *simplicity* in it at one time, nor *identity* in different." And lest his readers should reply: But players at least imply a stage, as impressions—to use Locke's figure—imply a *tabula rasa*, he hastens to remark: "The comparison of the theatre must not mislead us. They are the successive perceptions only, that constitute the mind; nor have we the most distant notion of the place, where these scenes are represented, or of the materials of which it is composed."[1] Now it must be acknowledged that Hume has never been conclusively refuted on psychological grounds; and, as his analysis of mind is the only one that seems to lend itself at once to physiological interpretation, there would have been nothing surprising in its present revival even if the most prominent of our living psychologists had been as pronounced in this controversy as he has been vacillating. That his inconsistency is in part unconscious only shows the difficulty of the controversy in question. A complementary inconsistency will be found in Hume and the Associationists. When Hume says: "For my part, when I enter most intimately into what I call *myself*, I always stumble on some particular perception or other. . . . I never can catch *myself* at any time without a perception, and never can observe anything but the perception," his very language, spite of himself, belies his theory. But not more than Wundt's language about sensations of spontaneity, sensations of activity, belies his.

Either side has a difficulty which the other presses home. The special difficulty of the presentationist who resolves all the facts of mind ultimately into ideas, impressions, cognita, or "contents of consciousness," as the phrase is now-a-days, consists in the agent and the activity which thought and consciousness imply. His favourite way of disposing of this difficulty is, as we have seen, to relegate it to some more fundamental science. "Modern" psychology makes a great show of system in this procedure by instituting a parallel between the subject of psychology and the substance of physics, and by insisting that psychology as a

[1] Green and Gnose's ed., vol. i. pp. 534 f.

science can deal only with events, and not with efficient causes. This very plausible assumption that psychology is a natural science co-ordinate with the rest will meet us again directly. Meanwhile, it is more to the point to notice the difficulty of those whose analysis of mind leaves them with feeling and activity as elements irreducible to cognitions, and yet part of the facts; thus making the antithesis of subject and object to be the very essence of the science. The difficulty on this side is, in some respects, the more serious of the two, for it presses immediately, and cannot be well postponed. Feeling, *i.e.*, pleasure and pain, the activity implied in consciousness (Wundt's Apperception, the Attention of many recent writers), and the subject of this feeling and activity are set off over against ideas or presentations as distinct factors or constituents of mind, and are, therefore, *so far as distinct from these*, regarded as not themselves ideas or presentations. Of course, it is admitted on all hands that these subjective factors cannot exist apart from the objective. But that does not affect the difficulty, which is that, though themselves classed apart from ideas or presentations, we are forced to admit that we have ideas or presentations *of* them. As it is sometimes put: we don't know them, but we know about them. But how can I know about what I don't know? Well, there is a sort of answer to this question, but it only defers the difficulty, and, in one respect, aggravates it. We know about things, so far as we know their relations—in this way we all know about the ether and the atoms; in this way the blind may know about light. Knowing these things themselves implies direct acquaintance, intuitional as distinct from conceptual knowledge. On a comparatively restricted basis of sense-acquaintance rest wide domains of scientific knowledge. "By means of data furnished in the narrow world of the senses, we may make ourselves at home in other and wider worlds, which can be traversed by the intellect alone."[1] So in like manner knowledge about feeling, attention, and the subject that acts and feels must rest, it would seem, on some direct acquaintance, even though comparatively restricted, *i.e.*, on some modicum, at least, of presentation. Moreover, this modicum must be our datum, and the wider knowledge, however scientific and stable, must be inferred from it. Having got this far, it cannot surprise us to meet the exact contrary of our first proposition employed to characterise these subjective factors: We

[1] Tyndall, quoted by G. H. Lewes, *Problems of Life and Mind*, i. p. 261.

know them, but we know nothing about them. Let us take one case as an instance—that of feeling. We frequently use this term as the very type of immediate certainty, and such immediacy and certainty seem absolute when feeling denotes being pleased or pained. That yet for all that we know nothing about it is best shown, it may be urged, by the fact that psychologists have so far been able to tell us nothing, and either, on the one side, make inferences about it from its causes, or, on the other, from its effects.

We note then two points: (1) that there must be some vagueness in the use of the word "know" when sane and reputable thinkers make such opposite statements, and (2) that in the case of feeling there must be something near akin to immediate knowledge, whether that be the most appropriate name for it or not. Even the view that expressly denies this seems to involve it by implication. Let us look at this latter point more closely first. Those who maintain that the immediacy of feeling is cognitive do so largely because they identify, or at least closely assimilate, feeling with sensation. The justification for such more or less complete identification is found in the important facts usually denoted as the feeling-tone of sensations. According to many of Wundt's statements, for example, feeling-tone is an element of the sensation along with intensity and quality. If sensation belongs to the cognitive constituents of mind, the elements of sensation must belong there too. But is this feeling-tone an element in sensation and not rather a consequent or effect of sensation? The whole of Wundt's exposition in the long chapter devoted to sensuous feeling seems to me a refutation of his original analysis, and even that is advanced with some hesitation.[1] In the main chapter he not only speaks of feeling as "an immediate affection of consciousness through sensation," and as a symptom of a *more central* process than we find in the quality and intensity of a sensory excitation; but he explains at length "the dependence of sensuous feeling on the total state of consciousness". Wundt, in short, in common with many others, recognises a difference between the immediacy of feeling and the immediacy of presentation. Such difference may be a difference of degree or a difference in kind. The prevailing opinion unquestionably is that it is only a difference of degree. This view finds expression in the familiar law first pointed out by Kant and formulated by Hamilton, *viz.*, that "knowledge and feeling, perception and sensation,

[1] *Physiologische Psychologie*, i.[3] p. 290.

though always co-existent, are always in the inverse ratio of each other". On the strength of this, Horwicz, and more recently Kröner, have made feeling—*i.e.*, pleasure and pain —the fundamental fact of mind, from which definite presentations are gradually differentiated. Spite of all, there are, I believe, good grounds for the opposite view, *viz.*, that the difference as regards the immediacy between feeling and presentation is a difference of kind; that feeling is not obscure cognition nor sensation objectified feeling; that feeling, in a word, is always subjective and sensations always objective, objective of course I mean in a psychological sense. According to this view, the duality of consciousness or the antithesis of subject and object is fundamental: according to the opposite view, the difference of subject and object gradually "emerges" as the result of development or "differentiation".

We cannot further clear the ground without dislodging whatever is fixed and definite in that sand-heap of a term—consciousness. There are at least four distinctions in current use, the grounds of which we must, if possible, ascertain and explain. There is (1) the distinction of Consciousness and Self-consciousness; (2) the distinction of State of consciousness and Content of consciousness—terms which must have a different connotation even if they turn out to denote the same facts; (3) the distinction of a fact of consciousness and consciousness of a fact; and (4) the collective and the distributive use of the term consciousness. No doubt these different meanings overlap; indeed, we may find them all to arise from the first.

To begin: Is the term consciousness to be used collectively of the whole that we analyse, or distributively of each factor or element in it? When the phrase, State of consciousness is used, it seems obvious that consciousness is to be collectively understood. It cannot be exact to say that every state of consciousness consists of states of consciousness. A thing cannot be in two states at once, though its state may be more or less complex. That we do nevertheless continually find psychologists speaking of cognition and emotion and conation as both inseparable constituents of a state of consciousness and also in themselves states of consciousness, is due to the fact that but one of the three is usually prominent at a given time. Such writers first ignore the presence of the uninteresting factors and then use language which implies their absence. But when the phrase "content of consciousness" is used, since the whole content can without impropriety be regarded as made up of partial contents, the term

may be used either distributively or collectively. According to this usage, cognitions, feeling and volitions might be regarded as severally contents of consciousness, though all required to constitute one state of consciousness. We may suspect then that presentationists who confine themselves almost exclusively to the use of content attach a different meaning to consciousness from that assigned to it by those psychologists who speak freely of states of consciousness.[1] And, in consequence of this difference in signification of the fundamental term, we may suspect too that the subordinate terms, cognition, feeling and volition, are employed in a modified sense. We may possibly ascertain the precise difference we suspect if we consider the phrase "conscious of" and the cases in which it is appropriate to use it. We say, *e.g.*, I am conscious of hearing, of seeing, of feeling, of desiring, and so forth. But it is less accurate and less usual to say I am conscious of a noise, of a light, &c., unless we wish to emphasise the certainty of our subjective experience, and then the full meaning of the phrase becomes, I am conscious of hearing a noise, of seeing a light, and so forth. But now hearing a noise, seeing a light, and so on, are "facts of" consciousness; and it is because he is "conscious of" these facts of consciousness one and all that the presentationist calls them severally and together contents of consciousness. But consciousness of consciousness is what is ordinarily called reflexion, internal perception or self-consciousness. Thus it would seem that it is from the point of view of reflexion, which is the psychologist's natural standpoint, that the presentationist speaks of all his facts as "contents," rather than as constituents of conscious life. We come then to the distinction of consciousness and self-consciousness—if that may be called a distinction which as a source of confusion is perhaps without a parallel in the history of knowledge. The history of this distinction is instructive, but would detain us too long. As the terms are now used self-consciousness is but a special though an important case of cognition: it is, therefore, not a conscious state, but only the cognitive element in such a

[1] The presentationist is dominated by mechanical metaphors, or, perhaps, it would be fairer to say by those *quasi*-mechanical facts which certainly form a large part, and perhaps the clearest part, of the psychologist's domain: those for whom consciousness does not resolve into co-ordinate elements are influenced rather by the analogy of life, by teleological conceptions. For such a state of consciousness cannot have fewer constituents than conscious life as a whole, and like life is collectively used.

state. To make the state complete we must add the elements of feeling and action that pertain to this as to other psychoses.

But now we realise the fatal clumsiness of our terminology, for it is through this self-consciousness, which *is* but a part of cognition, that we *know* the whole consciousness to which it belongs. The whole is contained cognitively in what is but a part of itself existentially—much as a man sees himself full length through an image in his eyes. Under cover of the one term consciousness lies the problem of knowing and being in one of its most perplexing forms. Now just because it is not our business to deal with this problem we ought to be free from all temptation so to shape our phraseology as to hide it. When psychology and metaphysics were lumped together and it seemed to be but a question of taste after which of the two the combination should be called, a confusion of standpoints was inevitable.

Whatever be the ultimate conceptions to which metaphysics may lead us, our proximate conception of knowledge of every kind, the conception from which we must start, implies (1) a subject knowing and an object known, (2) a necessary dependence of the subject on the object so far as its knowing goes, and (3) no such dependence of the subject so far as its being goes. We cannot know more than there is: there may be more than we can know. All sorts of qualifications may need to be made if we rise to the supreme generality of metaphysics: absolutely unknown being, *e.g.*, may prove to be an *Unding;* but on that level to which empirical psychology ought to confine itself, at least, as much "relativity" as the above, seems unquestionable. We have next to apply this to consciousness of consciousness as a case of knowledge of being. First, as regards the distinction of subject knowing and object known, we find the sort of antinomy that is apt to characterise ultimate problems. If we identify the two we transcend our empirical conception of knowledge. A knowledge in which subject and object are one is at best but a limiting case towards which we might perhaps conceive ourselves approximating in self-consciousness, and even continuing to approximate indefinitely. But so soon as subject and object are the same, there can obviously be no dependence of the one as regards knowledge, no independence of the other as regards being. If, however, on the other hand, we regard the subject knowing as distinct from the object known; then, in order that this knowing subject may be an object known, we require a second subject or at least a higher grade of consciousness. We seem

committed not only to consciousness of consciousness but to consciousness of consciousness of consciousness, and so on indefinitely. This has been regarded as a *reductio ad absurdum* from Aristotle onwards, and has led psychologists generally, either to shirk the whole question or to incline to the alternative of absolute identity. But whatever may be our speculative preference for an absolute limit as against an indefinite regress, there is surely great force in Kant's doctrine that it is the business of science to abide by the latter. After all perhaps the regress will not be found to go very far.

And now perhaps we may look again at the duality of consciousness. For self-consciousness this duality is a fact of presentation: we are conscious of, that is, have cognition of, the subjective as well as of the objective. But this cognition does not constitute its object any more than other cognitions. What *is* this duality which we reflectively know? Again, in trying to answer this question we must take care not to prejudice it by raising at the same time the very distinct question: How we can know the subjective? how anything pertaining to the subject can become objective? A recent writer[1] I find foreclosing the whole inquiry by an *a priori* demonstration, that any objectivation of the subjective is *ex vi terminorum* a manifest contradiction. But this is just to repeat the confusion of the psychological and metaphysical above mentioned. A proposition may be true *secundum quid* which may or may not be true *simpliciter*.

Symbolising everything cognised or presented by O, we say (1) that O is always part and never the whole of a psychosis or state of consciousness: the remainder, the non-O constituents, we may symbolise by S, and the whole which they together constitute we may represent as S-O; the hyphen serving to indicate that each is relative to the other. The duality of consciousness is then a name for this relation S-O. The cognition of their duality in self-consciousness or reflexion would be symbolically represented as $S\text{-}\begin{cases} S' \\ O \end{cases}$, and the indefinite regress which is supposed to be the fatal absurdity of this view could be represented as a series thus: S-O, $S\text{-}\begin{cases} S' \\ O \end{cases}$, $S\text{-}S'\begin{cases} S'' \\ O \end{cases}$, &c.

According to the doctrine that feeling is different in kind from presentation, feeling itself pertains to S and not to O, but the knowledge of feeling like all knowledge pertains to O, that

[1] Natorp, *Einleitung in die Psychologie nach kritischer Methode.*

is to say, knowledge of feeling is not possible in consciousness below the form or stage $S\text{-}\left\{\begin{matrix}S'\\O\end{matrix}\right.$. Similarly of the activity said to be implied in all consciousness: that too pertains to S and not to O and is only known reflectively. And now at length we may try to face the difficulties besetting this view. What immediacy can these subjective elements have if they have not the immediacy of presentations, and if they are not known presentatively how can they be known representatively or at all? As to the first question one can only say they have that other immediacy which is necessary to the immediacy of presentation. All such terms as object, presentation, intuition, apprehension, impression, attention, involve, literally taken, a spatial immediacy, so to say. Why a relation that is actually more fundamental than spatial relations should so invariably be conceived by the help of spatial metaphor is in itself an interesting enough inquiry. But it concerns us more to note that what is prefigured is an actual relation of two distinct things and not a merely analytic distinction within one. The relation of presentation is a real relation—as much so as that of causal efficiency or reciprocal action. But whereas in these *both* the related terms are known, in the duality of consciousness, one of them is beed, as Dr. Stirling would say. For mere consciousness what is presented, what affects, is the not-self; what reacts and feels is self, and that is not presented but 'presented to'. Feeling and willing are being positively and in the concrete; whatever other being there may be, they are the immediate being to which known being is the immediate counterpart.[1]

But now comes the question, how this feeling and active subject, thus antithetic to known being, can be itself known as feeling and active. That this inquiry is not wanting in

[1] To these statements I can see sundry objections. First, they run counter to most of the accepted definitions of sensation. In sensation, it will be urged, there is no object, no presentation of not-self: that begins, at the earliest, with perception. After the term consciousness, sensation is perhaps the most hopeless in all our psychological vocabulary. 'Recept,' if it had not already been appropriated to distinguish generic ideas from concepts proper, might have served to deliver us from some of the cobweb of sensation. Anyhow, as a point of method, it seems to me that presentation is the term with the prior claim to definition, and that sensation as ordinarily defined is a very problematic and tentative affair. Again, it may be said that it is all a question of words. I allow this so far as to admit that it is not a question to be settled by mere observation, introspective or other. It is a question, as Whewell would have said, of selecting and explicating the appropriate conception.

difficulty may be gathered from the diametrically opposite conclusions reached; say, for example, by Maine de Biran or Mansel and by Kant. "The one presented substance," says Mansel, "is myself." But in what way presented? "All that is presented through a sense," Kant remarks, "is in so far invariably phenomenal; and an inner sense must either be disallowed altogether, or the subject, which is its object, *can be presented only as phenomenon*, and not as it would judge of itself, if its intuition were pure self-activity, *i.e.*, intellectual. The whole difficulty lies in this: how a subject can inwardly intuite itself. But this is a difficulty besetting all theories alike."[1] In this dilemma the French Reidians and Mansel practically decide for the first alternative: they disallow an inner sense, as by Kant restricted, or at any rate identify—so far as self-consciousness goes—the sensible and intellectual intuition, which he held to be fundamentally opposed. By absolutely identifying the self-knowing and the self-known Mansel (*cf. Metaphysics*, p. 369) finds it superfluous to ask *how* a subject can intuite itself. We don't ask how A is A. Psychology with him passes over into ontology. But then, as I have already said, in such a passage there is a leap. Such duality in unity is as much a mystery as the theological trinity in unity. It stands as much apart from the relation of knowledge as the conception of a *causa sui* from the relation of cause and effect, or that of a *primum mobile* from all the working conceptions of physics. I do not say this objection is to be held altogether and finally fatal; but it is at least serious enough to justify us in trying further.

Kant chooses the other alternative, according to which the I and the Me[2] are not identical. But his inner sense is not only not co-ordinate with his external (though it took him a long time to see this), but it cannot with any propriety be called a sense at all.[3] The advance from consciousness to self-consciousness is not by way of an extended receptivity but by way of intellectual activity. Such activity, however, must be something very different from "intellectual intuition". Our cognition of the subjective approximates to what we may call the noumenal, inasmuch as it is determined by intellectual activity; and though, like all our activity, it depends

[1] *Kritik*, 2te Aufl., Hartenstein's edn., p. 77.

[2] We owe to Prof. James this very convenient simplification: I = Subject Ego, Me = Object Ego.

[3] On Kant's gradual discovery of this difference, see Caird, *The Critical Philosophy of Kant*, i. pp. 616 f.

on receptivity, yet it is only the manner of this receptivity not the matter of it, with which it is concerned. It cannot then without great inaccuracy be called phenomenal, as that term is ordinarily used of things external, albeit it has the phenomenal taint, so to say, inasmuch as the strictly phenomenal is the indispensable condition of its realisation. This unique character of subjective cognition and the inexactness of the whole phraseology of inner sense is shown by any careful analysis of the consciousness of self. Sufficient merit has perhaps not yet been accorded to Berkeley in this particular, (especially when we take account of the sensational atmosphere in which he philosophised,) for so clearly discriminating between idea and notion and insisting that of self we have a notion but not an idea. How through and through conceptual is self-consciousness may be gathered from its dependence on social intercourse and language: the child has probably a considerable knowledge of other selves and of its own self as an object to them before it can put any meaning into the words, "I am I".

But the real problem of subjective cognition now-a-days has less to do with the notion of self than with the nature of our knowledge of the feeling and activity attributed to it. Even after the notional character of self-consciousness is admitted it could still be maintained that feeling and activity (or attention) are presentations of an inner sense.[1] But the moment this is done their generic distinction from cognitions is surrendered. On the other hand, if they are not presented they cannot be represented. It is probably quite true to say that introspection is really retrospection; but what we retrospectively observe of the subjective is not fading feeling or fiats congealed to facts. It is too absurd to suppose that if feeling and activity were in "the field of presentation" at all they could be anywhere but in the focus; that we are too absorbed to regard them while they are present and only take note of them when they are gone. If the feeling agent, *i.e.*, the knower, and the known must be antithetic and distinct, and if consequently direct presentation or representation of feeling and activity are alike impossible, it seems plain that any knowledge we have of

[1] Kant, for example, who between the two editions of the *Kritik* began to see that his inner sense was only very equivocally a sense at all, did not hesitate, some ten years later, to refer the feeling of pleasure and pain to a more inner or "interior sense" (*sensus interior*), at the same time defining inner sense (*sensus internus*) as that in which the body is affected by the mind in contrast to the outer senses in which the body is affected by other bodily things.

them must be in some way constructive or mediate. What little agreement there is among psychologists seems to point that way. The advance from the stage at which the subject merely interacts feelingly with its environment to the stage at which it knows about its feeling and interaction is held to be due fundamentally to the ascertainment of relations between sensations and movements on the one side and the conception of self on the other, which conception becomes itself defined as the process goes on. And a vastly long and complicated process it is, far too long to follow here even in outline. In the course of it, no doubt, new presentations are experienced, such as the various motor adjustments depending on attention, the thrills and pangs, the glows or shivers of various emotional excitements. But there is nothing in any of these to warrant the assumption of either an inner or an interior sense. At the same time—beside the fundamental contrast of sensation and movement—the contrast between the bodily localisation of certain impressions and the external projection of others, the many invariable sequences of ideo-motor action and particularly the observation and teaching of one's fellow-men, are among the materials that make possible this shaping of one's knowledge into inner and outer, with their implication of a centre within as well as of an indefinite universe beyond. But all we know is a circumferential area having neither inner edge nor outer sharply defined or necessarily fixed. Not till this belt has acquired a certain breadth and completeness, so to say, are those relations discerned which yield this constructive knowledge of a central subject towards which or from which all the lines, as far as they are traceable, seem to radiate. Now before entirely discarding this time-honoured figure, which is perhaps not wholly inapt, it is worth one or two remarks. First, the subjective is neither to be represented as a definite sector of the ring nor yet as the inner circle of two concentric portions into which the whole sharply divides. Subjective knowledge is not in this sense more immediate than objective, nor do we obtain it by turning right away from this. Both constitute one experience, though, as said, it is only when this experience is organised beyond a certain degree of elaboration that it becomes self-revealing to the subject of it. The duality of knowing and being is not to be resolved into duality of knowledge. Again, the subject itself is, of course, not adequately conceived as a central point, though certain of its relations may be not unfitly symbolised by such a

figure; as, *e.g.*, its individuality, the contrast of activity and passivity in the incoming and outgoing radii, and perhaps that of knower and known in the opposition of centre and circumference. As regards this last, however, the figure usually resolves into the more concrete picture of the eye with its visual field, incapable of seeing itself, and seeing what is nearest to itself but indistinctly. No doubt, having made a beginning, we can go on and advance in this "thought-knowledge" about self as we advance in "thought-knowledge" about not-self. But the point is that, however far such knowledge is extended, it will not thereby become "sense-knowledge": it advances by the discernment of new relations, not by the acquisition of new sensations. If feeling and activity are presentations they must be so apart from the advance to self-consciousness; in fact, an inner sense must be primordial. And as it is nowhere denied that feeling and activity are constituents in every conscious state, we are brought practically to consider what I have ventured to call the presentationist position. It will be best to begin *de novo*, and work up from this new side to our present question as to the character of subjective knowledge.

The chief difficulty which the presentationist has to face is the implication of the conscious subject, and of its activity in consciousness. This, as we have seen, he tries to minimise by (1) transferring to what he calls the contents of consciousness everything commonly ascribed to the subject in the way of act or change, nay, even such attributes as unity and continuity; and (2) leaving to some other science to make what it can of the *form* of consciousness; generally with a certain irony, much as western learning might leave the eastern to study the *pillars* of the earth, while reserving to itself the study of gravitation. One prominent exponent of this view, by way of illustrating the mathematical rigour with which this division into content and form is intended, refers to the simile of the eye and the field of sight mentioned a little above. In actual sight the character and changes of the field depend in part at least on movements of the eye: not so with the eye of the mind. Here "it is not the eye that closes, but the objects that disappear: not the eye that variously accommodates, but the features of objects that now advance into distinctness and now retire into obscurity. It is not the eye that wanders hither and thither, but now one object is in the focus

and now another." All is determined by the objects seen, nothing by the eye that sees—except the seeing. Now it must be frankly allowed that this latest analysis of mind and the delimitation of the province of psychology that follows from it seem at first sight to promise enormous simplification, and to be besides but the logical outcome of the whole Herbartian movement. If it was a merit to reduce the multitude of faculties to the single faculty of apperception or attention, it is surely a crowning achievement to banish Faculty altogether. For, whereas faculties could at least be compared *inter se*, Faculty absolute is comparable with nothing. Again, since the special faculties were severally superseded by explanations based solely on the properties or relations of presentations themselves, we have now these alone outstanding as data for positive investigation, and the notion of subjective faculty or activity, (whether called consciousness or apperception matters not,) since it applies alike to all these data, can specially affect none. Even if anything could be known about it, empirical psychology could safely leave it aside. Psychical phenomena or presentations or "whatever there is consciousness of" can now be completely characterised by quality, intensity, duration, complexity, and serial order, and can be correlated with physical phenomena as readily as shadows with the shapes that project them. So correlated they are amenable to experiment and to measurement and mental chemistries or mental physiologies become sober realities.

Many of those who uphold this conception of psychology seem to imagine that whoever demurs to it must either cling to some unverifiable, "metaphysical" prejudice or at least deny that all psychical changes have physical concomitants. That objection may be taken on such grounds is likely enough. But there are other grounds of objection which the presentationist cannot so easily ignore. First of all he overshoots the mark: in striving to simplify psychology he really abolishes it altogether. He has pushed back the standpoint from which he set out, until physical facts and psychical facts are no longer diametrically opposed in aspect but both are brought into one view. The old distinction of inner and outer, or, as it has become now-a-days, of "concave and convex," is for him no longer absolute. By rising above the plane he finds the two standpoints can meet in one. No doubt they can; but what does rising above the plane mean? Obviously it means forsaking science for speculation, soaring into "the cloudland of metaphysics". And those presentationists who are willing to call

their doctrine materialistic tacitly admit this; for materialism in psychology as much transcends the facts as idealism would in physics. But confining ourselves to what is directly intended, it will be enough to say that they treat the psychological standpoint as if it were essentially the same as a physical standpoint. The mistake is one of method in the larger sense: in other words, presentationism is epistemologically absurd. Now it is worth remarking by the way that, ready as these writers are to defer in general to the Theory of Knowledge, it appears never to have occurred to them to ask whether their vaunted simplification is logical in the higher sense or not. It seems to me that it is not thus far logical, however much it may commend itself as such to those who have no sense of philosophical orientation. The start is apparently made from the natural or object sciences. The chief data of these sciences come to us by way of sight or hearing or touch, and as they come are entirely disparate. Now we can perfectly well conceive the problem to arise as to the means by which these severally incomparable groups of facts might be related; and the solution to be found in eliminating the "form" peculiar to each. So it may be supposed were obtained, first of all, Physical Optics, Physical Acoustics, &c.; and finally General Physics. Into the former there enters nothing due to seeing or hearing, and into the latter nothing of sense at all. Now "the contents of consciousness" or presentations are a group of facts disparate with all beside. Why not proceed as before: eliminate the form of consciousness or the inner sense, and then it will be possible to correlate these objects with the rest? Such a proposal seems on a par with projects for economising the currency by abolishing bullion altogether or for increasing the power of the lever by reducing the short arm to zero.

In one respect certainly the procedure of the psychologist and that of the physicist are alike. The material extended world is the object of the one as the individual mind is the object of the other; and each keeps himself distinct from his object. The physicist may be colour-blind or left-handed and have his "personal equation," but none of these enter into his science; and spite of the much greater difficulty of eliminating the personal in this sense, the psychologist is a psychologist, and not an autobiographer, only in so far as he keeps clear of it. But the physicist does more: he eliminates not only the personal but the mental altogether. So far the presentationist will agree; and he will probably remark: Yes, our business is with the phenomena of mind as theirs is with the phenomena of matter. The remark seems clear,

but it is really confused. The word phenomenon does not mean the same thing in the two cases. There is not a genus phenomenon divisible into the two mutually exclusive species, mental and material, as the latter may be divided into optical, acoustical, and so forth. Evidently not, for—if we must needs speak of mental phenomena at all—then the physicist himself in converse with material phenomena furnishes the phenomena or rather the phenomenon of the psychologist. This brings out another point obscured by the common parallel of psychical and physical. The material world is conceived but not known as a single whole, a universe. The universe, as Kant would say, is an idea of the reason. It is left to poetry or to speculation to contemplate the universe dramatically as a concrete unfolding; for the sciences are forced to deal with it piecemeal. The phenomena of the physicist's chief generalisations are abstractions: they have no individuality, no dates, no places. His laws are like single threads in a vast tapestry, which are identified by their colour or their material. He lights upon them here and there as a patient fly might do, and thus he knows the stuffs and the texture but not the pattern, the plurality and the continuity but not the unity nor the meaning. Now, we cannot talk of mental phenomena in this wise. The mind is not stuff nor part of a general continuum. Whereas for the physicist the macrocosm is an ultimate ideal, for the psychologist the microcosm is the prime reality. He reaches his elements by analysis, not his whole by synthesis. It is not Mind, a word which in psychology is unmeaning, but the individual mind that he studies; and every fact within his range is concrete, has a date and a place. The language the physicist uses of his phenomena is generally of the form: There is this or that, *a*, *b*, *c* or *d*, and the psychologist in talking of him can say: *There is* such or such a mind. But he cannot bring out the characteristics of the psychological standpoint by saying: There are such and such presentations or feelings or movements. To this end his statements must (and always do) take the form: *He has* such and such presentations, feels thus or thus and acts in this wise or that. Now this I take it is the "form of consciousness," and to eliminate *it* is to ignore the concrete experience of the individual mind, and to abolish what is the characteristic of psychology altogether. But it is worse. Since the psychical standpoint—the standpoint, that is to say, that the psychologist studies—is the real, if not the logical, presupposition of the physical, to resolve it into the latter is tantamount to saying that there are phenomena

that appear to no one, objects that are over against nothing, presentations that are never presented: in short, in the oddest of all ways, to say that there are only things *per se*. Perhaps the presentationist may think to escape this distastefully metaphysical outcome by referring us again to the pure form of consciousness which is his "absolute presupposition". But a form that effects nothing is nothing: "There is consciousness of" differs in no assignable respect from "There is," when consciousness is completely extruded as wholly unknown from the content that is.

In fact, of course, it is not thus extruded. The so-called content of consciousness itself reveals the so-called "form". But some of our modern psychologists, satisfied, I suppose, with what they have done for this in putting it out of harm's reach, feel at liberty to explain away all the traces of it they find within the known content. In this they make common cause with the older sensationalists or associationists, whose lineal descendants they are. The blundering and incompetence of these doctrines have been so often exposed that it would be superfluous to dwell on this the second objection that may be urged on the score of method. It is here assumed that the whole of self-consciousness is knowledge, using the term widely to include, if necessary, both true and false knowledge. The mistakes and difficulties of psychological observation may suffice, if proof be wanted, to show that self-consciousness does not consist in the mere reception of presentations but in the discernment of relations: in other words, that, in the presentationist's phraseology, it consists of associative combinations of presentations; or, as the teleologists would say, it is intellectual not sensible. Yet again, once grant the gradual building up of the conception of self, and then the fact that this conception enters into every deliverance of self-consciousness leads to the same conclusion. Self-consciousness is thus in its logical character and its psychological composition comparable with objective knowledge, using the term as widely as before. In both we can distinguish between meaning and mere psychical structure, as we can between the import of a proposition and the strokes or sounds of which it is composed. But it is obvious that we cannot analyse this structure indefinitely; and when it ceases to be possible we have simple presentations, or what we provisionally assume to be such. Now comes the strange perversity of the presentationist. Where psychology and physics differed, *viz.*, in standpoint, he identified them; here, where they are alike, he treats them differently. He allows the meaning to hold in objective knowledge, but

ignores everything but the etymology in subjective knowledge. The psychologist is, no doubt, in a unique position: it is part of his business to analyse to the uttermost, but it is only part. So far he is comparable to the scholar who is both phonologist and exegete in one: the presentationist would then resemble a commentator who in his zeal for thoroughness should resolve Homer into an arrangement of gutturals, dentals, labials and the like. Knowledge precedes science in psychology as elsewhere, and what we roughly call our common-sense conceptions concerning the subjective must like those concerning the objective stand or fall according as they do or do not make things intelligible. What they are made of—in the sense of psychological analysis—is then beside the question. But oddly enough the view seems to prevail that nothing is to be valid in psychology but what is sensory. The subject and subjective activity are set aside as "popular assumptions" due to our common ways of talking about mental events, or as temporary hypotheses which "modern" analysis shows to be superfluous. Popular they certainly are just as other categories or fundamental conceptions—Substance, Cause, or End, for instance. But hypotheses they are not according to any accepted meaning of the word. Before any one is entitled to dismiss them on this plea he is bound to show that he can do without them. This no presentationist, sensationalist or associationist has ever done, and I think it can be shown that he never can do it because the attempt is essentially absurd.

Let us examine for a moment one of the latest of these attempts, one that seems to have found especial favour among prominent teachers both in England and in America —I mean that of Dr. Hugo Münsterberg. The business of empirical psychology according to him is to describe the spectacle presented to some unknown, impotent, and apathetic spectator, who is to be called the subject Ego, albeit it is false to attribute personality to it. The constituents of the spectacle consist, of course, ultimately of sensations; and at first there is little to note except their promiscuous coming and going. But as all have to leave traces or memory-images behind, stable associations are gradually formed, and so the spectacle becomes one of a continual interplay between a varying environment and a comparatively fixed central group. This group is the Me, objective or personal Ego, to which it is just as false to attribute consciousness as it was to attribute personality to the subjective Ego. The Me-group is made up, first of all, of organic and

muscular sensations, and then of such memory-images as can sustain themselves without direct resuscitation by new arrivals. These free images presently constitute a fresh play within the Me; which henceforth includes a sort of pictorial Me with a pictorial environment. When things have developed thus far it continually happens that some change in the environment, such as was followed in the past by certain muscular reactions, occurs with the like result again. But now such a change leads to a rehearsal, so to say, in the pictorial sphere, of what is about to happen actually. The representation of the muscular movements arises before the actual movements have had time to supervene. The old copy thus regularly preceding the new original is taken for the cause of it. This is the process called volition. The representation of the movement is all that answers to the supposed "feeling of innervation" or sense of effort. And when it is said that certain psychical changes unaccompanied by bodily movements are due to the activity of the conscious subject this only means that such changes are accompanied, either really or ideally, by those feelings of strain that have been presented times innumerable along with bodily actions. "Where *the illusion of a conscious activity*, set over against the content of consciousness, arises there is really nothing for experience to lay hold of except (1) that a group of sensations of strain take up their position within the field of consciousness, and (2) that certain [other] changes in the field make themselves observable." So much for subjective activity. The case of feeling is still briefer. Those changes in the environment which the biologist and the physiologist understand to be salutary stimuli produce reflex expansions of the body; those tending to injure the organism, on the contrary, reflex contractions of the body. By such means the body is brought nearer to objects of the one class and removed further from those of the other. The sensations due to these reflexes become associated with the originating stimuli perceived at the same time and constitute for these their pleasure or pain characteristics. As the reflexes produce contrary bodily acts so these sensations have contrary qualities; and as they pertain entirely to the body, the basis of the Me, which turns towards the pleasurable and turns from the painful, the close connexion of feeling and action is manifest without more ado. In this association these sensations have nothing objective about them; indeed, they forfeit all their presentational independence and become simply an index of *the "eudæmonistic worth"* of other

sensations, so that we say that such or such "a content is apprehended with pleasure or with pain".

The first thing to ascertain concerning this exposition is whether the author has succeeded in keeping his conscious ego clear of all suspicion of meddling or interest, and in keeping his personal ego clear of all implication of consciousness. The reader's suspicions will doubtless have been aroused at two points—at the mention of "*the illusion* of an activity of consciousness," and again at the mention of "a *measure of the worth* of sensations". The conscious ego, since it is not active, ought surely to be free from *illusions* about activity, and in the personal ego, which is not conscious, it ought to be difficult to find any hint of consciousness. Given a landscape painting and a percipient confined to space of two dimensions, could the statement arise that here is the illusion of a space of three?

And what are we to make of the "hedonical worth of sensations"? The reader must kindly submit to a little more detail. First of all we are required carefully to distinguish between (1) the localised muscular sensations of advancing and withdrawing our bodies or limbs, and (2) the sensations that arise whenever such movements occur as reflexes. The former, it is allowed, are definite objects, and as such "emotionally indifferent," but the latter are "the determining measure of other objects, what is called feeling-tone". This very "modern" psychologist then proceeds to complain that "the recent lively discussions in Germany, England, and America concerning the material basis of the feelings, strictly speaking, referred always to the content of the feeling co-ordinate with sensation and never to the state itself of the subjective attitude, *viz.*, pleasure and pain". In this censure many of us will in the main concur; if not always deserved, it is deserved very often. But it is a surprise to find this Saul among the prophets. How in his theory, where all is sensation, can there be an element not co-ordinate with sensation? The laws of association may perhaps explain how a particular presentation becomes at length inseparably merged in a complex, and in that way ceases to be independent. But can they explain how such particular sensation can acquire a wholly new kind of independence and come to measure the worth of other sensations or constitute the attitude in which they are "apprehended"? And are we to assign this "subjective attitude" to the impersonal subject that passively looks on or to the unconscious Me-object that is but a group of sensations?

Receptivity at all would be as contradictory to the latter as partiality to any special content would be to the former. On these perplexing questions the following passage from Münsterberg's latest work may throw some light: "To the impersonal consciousness there is given a system of contents that differentiates—just according to the way in which it is regarded—into a physical world and an individual psychical world. It is the former from the quantitative standpoint, the latter from the qualitative. The idea of the Ego-personality also differentiates in the impersonal consciousness into this double content. How is this fundamentally diverse contemplation possible? Solely through certain contents of the impersonal consciousness, which—it must be owned—play a quite peculiar double part. For they can *either* be apprehended, like all other contents, merely as definite occurrences. Then there results a manifold of contents that are altogether co-ordinate, absolutely incommensurable and simply unlike—a system of qualities without space, without time, without degree, without substance, without cause. *Or*, on the other hand, those peculiar contents are *not* apprehended as independent, co-ordinate occurrences, but become for the impersonal consciousness the standard, the medium of comparison—in short, the worth of the remaining contents. They then forfeit their independent content, cease to become isolated objects of consciousness; but the world of the remaining content thereby gains order" of various kinds. The sensations that play this peculiar double *rôle* are, it seems, those that arise through muscular movement or strain. "On movement mainly depends the space value; on strain, the intensity value; and on the products of extending and flexing, the pleasure-pain value." We are, of course, here concerned with this wonderful piece of extempore speculation only so far as it bears on this last kind of order and worth.

Now it may be safely assumed that our experience answers exclusively to the second of these worlds—the world of order and worth. The first is nothing but the presentationist hypothesis, the *ne plus ultra* of psychical atomism. Again, we have not in the first instance to deal with the statement that feeling, if it could be isolated as an independent presentation, would turn out to be one of the sensations produced by reflexes expanding or contracting the body. This the author has to prove, and he has attempted to prove it by experiments on himself. What immediately interests us is simply the ample admissions Münsterberg incidentally makes, *viz.*, that in the world of

order, pleasure and pain are never independent or isolated presentations, are not co-ordinate with sensation, and not apprehended like the other contents of consciousness; but are themselves the subjective attitude in which these contents are apprehended, are *for the impersonal consciousness* the standard of worth by which they are compared and through which the world comes to contain "gewollte, gewerthete Dinge". It interests us further to note that Münsterberg has not been able to adhere to the distinction between the conscious but impersonal and the personal but unconscious Ego with which he sets out. The very phrase "impersonal consciousness," with its implied contradistinction from personal consciousness, shows, as was maintained above, that he has identified the psychical standpoint with the point of view of knowledge in general. This is borne out by the fact that he places all kinds of order on a level: temporal, spiritual, substantial, causal values figure alongside of values that have for their standard feeling and will. Even this could be allowed if at the same time his personal Ego were endowed with a "personal consciousness," so that it could be said the world contained "*gewollte und gewerthete Dinge*" for it. But then this would resolve his "impersonal consciousness" into the psychologist at his post of knowledge, and the whole difficulty of the psychical standpoint which the psychologist contemplates from thence —all the puzzle about the I and the Me—would arise again.

"Modern" psychology then is bent—and often avows that it is bent—on reducing "all psychical life to a mere looking on at physical brain-processes"[1] from another side: its psychology is simply brain turned inside out. The anxiety to resolve feeling and activity into sensations might lead one to suppose that there was ample physiological warrant for such an enterprise. Whereas it is notorious that no psychophysical problems have produced such a crop of hypotheses or occasioned such keen controversy as have the two questions concerning the physiological concomitants of feeling and attention. And in the case of feeling, at all events, the evidence is dead against classing it as a form of sensation. No special end organs, no special nerves, no special centres have been found for feeling, spite of much zeal spent in the search. On the other hand, the prevalent teleological explanations of feeling are, so far as they go, so many refutations of the presentationist. The notion of stimulating a centripetal nerve and the notion of furthering or hindering

[1] *Cf.* Münsterberg, *Beiträge*, i. p. 22.

life are very far from running on all fours. Because of the difference between them, we can talk of a pleasant or painful taste or sound but not of a green taste or a yellow noise. Very similar remarks apply in the case of activity, though possibly the application is not so obvious. Had Wundt succeeded in establishing the existence of an organ of apperception *within* the brain, I for one should feel that he had so far put an end to his own theory of psychical activity and to every other. Apperception would then be on a level with walking or eating and Gassendi's *Ambulo ergo sum* as good as Descartes' *Cogito ergo sum.* So far as acts are but definite movements, so far they must involve definite structures; and so far too their psychical concomitants, when they have any, must be presentational. But a brain centre for attention is as preposterous as a special organ for life would be; and all attempts to find one have signally failed.

Psycho-physics seems to warrant us in saying that differentiation of presentations is the psychical parallel of differentiation of nervous structure, whereas psychical activity or life seems to be the concomitant of the more or less intense working or functioning of this structure, and pure feeling a function, so to say, of this function. Even in a machine we distinguish mechanical arrangement from motive power and efficiency; and in some machines the mechanical arrangement includes gauges and work-indicators which register the power and the good or bad working of the machine in action. I do not mean by this to imply any useful analogy between psychical life and a more or less automatic machine at work: but simply to illustrate by another instance the difference of category between presentations on the one hand, and conscious life, and feeling on the other. In the machine, in the organism, in mind, the fundamental conceptions are inter-dependent, in no case are they reducible to one.

It will be agreed on all hands that the theory of presentations is the one part of psychology that is comparatively clear; in which important generalisations, such as the laws of association, have been established, and in which instructive correspondences can be found with the underlying physical phenomena. The psychologist has therefore every motive to adopt presentationism, *if it is adequate to the facts.* Now I think it will be again agreed that presentationism *is* adequate to (say) nine-tenths of the facts, or better, perhaps, to nine-tenths of each fact. I therefore see no reason why it should not be made into a more or less independent branch of psychology, as neurology, for example, is a more or less distinct department of physiology. The mistake of the

"modern" psychologists is that they either snatch at a hasty simplification by mistaking the nine-tenths for the whole; or worse--like Münsterberg, try to bring what they can of the outstanding tenth under the common rubric, presentation, and to banish the rest from the region of the knowable altogether.

On the whole then we seem justified in concluding that presentationism is not successful in its attempt to evade the difficult question concerning the character of subjective knowledge: certainly it gives us nothing that can be called a solution of it. I hope to be allowed at an early date to take up the problem anew and independently. Meanwhile there is only space to urge one point, the perfectly unique character of this subjective knowledge. This is ignored when reflexion is regarded as co-ordinate with sensation, inner sense without outer sense; when the term "phenomenon" is applied to mental facts as it is to material facts; or when the relativity of subject to object is confused with the relativity of object to object. The position taken up by Descartes and Locke, *viz.*, that we have a clearer and more certain knowledge of our own existence than of the existence of external things, and Kant's position that internal experience is only possible through external, seem both true, although Kant maintained the second in refutation of the first. But they remain unmediated; and so long as psychical facts are referred to one unknown x just as physical facts are to another unknown x, it is difficult to see how they ever can be mediated. As with other negative terms, so with this one, "unknown"; it implies both an unknown that is knowable and an unknown of which there can neither be knowledge nor ignorance. Again, knowledge is said to be either sensible or intelligible, presentative or constructive. If so, there may be an unknown from the point of view of sense that is not an unknown from the point of view of understanding, and this unknown to sense may or may not be an unknowable for it. Now, what I am disposed to maintain is that the Ego is both an unknown and an unknowable for sense: the Non-Ego partly an unknown but not an unknowable, so far as the possibilities of sensational *rapport* are unlimited. The "I" cannot be presented to itself because it *is* itself: the presented, *ex vi termini*, is the other. When we pass to intelligible knowledge, we have as regards the Non-Ego that shaping, relating, in-forming of the matter of sense that constitutes phenomenal experience in the Kantian meaning of the words. In this process I am inclined to believe the subject comes to know itself intelli-

gibly; the outward advance is an inward revealing. If it be said that such knowledge, since it lacks appropriate sense-particulars, must be unreal and empty; this, I should urge, is to confound the Ego with the Non-Ego, to ignore the unique character of subjective knowledge and so far to beg the whole question. Just because the relation of subject and object is not, so to say, a commutable relation, is it reasonable to expect the knowledge of the one to differ importantly from the knowledge of the other. Phraseology like that of Hamilton's—"The Ego and the Non-Ego are given by consciousness in equal counterpoise and independence . . . in absolute coequality"[1]—is mere phraseology, but very misleading. To ignore this difference seems to be the mistake of presentationism; but it must be owned as a difficulty besetting, as Kant urges, every theory alike.

[1] *Lectures on Metaphysics*, i. p. 292.

V.—DISCUSSIONS.

ON PROFESSOR JAMES' DOCTRINE OF SIMPLE RESEMBLANCE.

In Professor James' *Psychology* (vol. i. p. 532) there is a doctrine and an argument with regard to simple Resemblance. Both the argument and the doctrine, I venture to think, are open to criticism, and perhaps some discussion on this point may prove of value. I would much rather express my general admiration for Professor James' brilliant work. And, since the argument, if not the doctrine, is derived from Professor Stumpf, I am sorry again to criticise a writer whose book on Space, years ago, taught me much. I have thought it better to confine myself to Professor James' statement.

There is such a thing, he holds, as simple Resemblance.

"Any theory which would base likeness on identity, and not rather identity on likeness, must fail. It is supposed perhaps, by most people, that two resembling things owe their resemblance to their absolute identity in respect of some attribute or attributes, combined with the absolute non-identity of the rest of their being. This, which may be true of compound things, breaks down when we come to simple impressions."

We seem bidden here to make a choice. We must either accept resemblance between what is simple, or we must hold:—

"That the difference between two objects is constituted of two things, *viz.*, their absolute identity in certain respects, *plus* their absolute non-identity in others".

Now I wish to point out at once that this alternative seems incomplete. A man may be sure that resemblance between what is quite simple is quite unmeaning; and yet he need not believe that the one alternative to "simple" is "composite," if "composite" means made up of separable parts. The view, that sameness and difference are everywhere inseparable aspects, most certainly exists. But its existence is not included in the dilemma in which the argument consists. And, in the second place, while holding resemblance, not indeed to *be*, but to be based always on, partial identity, one need not in consequence hold that this identity is explicit. If, that is, in things before my mind, which to me seem like, I do not distinguish, and perhaps could not specify, the identical point, this does not prove that no perceptible identity is there. But on these false assumptions Professor James' whole conclusion seems to rest.

The arguments employed make use of the instance of a series. Such an instance entails this very grave disadvantage. One cannot fully deal with its complication unless one attacks the

general problem of the unity and order of a series. And to touch such a difficult question by the way is hardly possible. Certainly if Professor James' view of resemblance got rid of this problem, the inconvenience (he might fairly urge) lies all on one side. But this, I imagine, can hardly be said to be really the case. I must therefore warn the reader that the instances, used in the arguments, involve a serious and (so far as I see) an irrelevant complication. I am hence forced to treat merely that part of them which seems to me to be essential.

I. The first argument (I state it in my own way) is this. Take several sensible qualities which form a series. These qualities may have resemblance without identity. For, if identity, then an identical part; and, if so, then a part which can be specified. In at least some cases one is unable to specify the part, and, therefore, so far, there is no identity. Hence the resemblance is simple.

This argument appears to be thoroughly unsound. Resemblance, I take, not to *be*, but to be an impression based upon, experienced partial identity. This, however, does not involve a perception of the identity, as such, and discriminated. I may call things alike or different, and only afterwards discover the point which impressed my mind, and on which my judgment was founded. This is common experience, and, so far as it goes, is adverse to the assumption that what I cannot distinctly indicate, is, therefore, absent or ineffective. And then, again, some sensations seem to possess a common feature. They have, to me, a general character, of which I can be vaguely aware, though I cannot isolate it, or in any way (as we say) "bring it out". You cannot, *e.g.*, point out what general colour is; but, on this ground, to deny that particular colours have for your perception anything in common appears not reasonable. "Yes, but," I may hear, "you have not considered the series. The colours are not more or less alike as being colours. They are more or less alike, for example, in being darker or lighter. Will you not deal with that point?" Well, I should have thought that darkness and lightness most assuredly were characters of which we are aware; and so, again, with bitter and sweet, and high and low, and dull and sharp, and (when you come to space) with up and down, or right and left. And to tell me that these characters in and for my mind do not exist, because I cannot make them explicit and distinct, appears quite arbitrary. And Professor James, it seems to me, is himself concerned in denying such a doctrine. For how can we have a consciousness of uniform direction (p. 490), if there is not some one element common to all the degrees? How are we to speak with any meaning of "more" and "less," if it is to be a "more" and a "less" of *nothing?* To choose the instance of a series, in order to disprove identity, was, I venture to think, indeed suicidal. You may, perhaps, urge that we have a series of resemblances, and that in this resemblance in the end

consists the identity. But the resemblance, I reply, is not resemblance at large, or in general ; for the series, we are agreed, has a particular direction. It moves to more or less of high or low, or soft or loud, or light or dark, or sweet or bitter. But a particular kind of resemblance, degrees of which make the unity of a series, seems to me to imply resemblance in and through a particular point. But, if so, with that we have a resemblance based on identity. Professor James has scarcely made it clear how he would deal with this obvious reply to the first argument. And I do not think he has supplied any adequate information at all as to the unity of his series. How far this information is supposed to be given in Chapter XXVIII., I am unable to say.

II. The second argument I must quote in full as translated from Stumpf.

" We may generalise : Wherever a number of sensible impressions are apprehended *as a series*, there in the last instance must perceptions of simple likeness be found. *Proof :* Assume that all the terms of a series, *e.g.* the qualities of tone, *c d e f g*, have something in-common,—*no matter what it is*, call it X ; then I say that the differing parts of each of these terms must not only be differently constituted in each, but must *themselves form a series*, whose existence is the ground for our apprehending the original terms in serial form. We thus get instead of the original series *a b c d e f* . . . the equivalent series Xα, Xβ, Xγ . . . &c. What is gained ? The question immediately arises : How is $\alpha\beta\gamma$ known as a series ? According to the theory, these elements must themselves be made up of a part common to all, and of parts differing in each, which latter parts form a new series, and so on *ad infinitum*, which is absurd," p. 533, note.

This is the argument which I presume contains the abstract principle, and for myself I cannot call it " conclusive " or even " acute ". It is a dilemma based (if I understand it rightly) on a vicious alternative, and a dilemma certainly not reduced to its simplest form. I will endeavour to state its principle.

A thing is simple or else composite, and, if it is composite, its parts in separation retain each its own proper character. Resemblance hence, if composite, is made of two parts, identity and difference, and these parts in separation, and taken bare, must still be identity and difference. Otherwise resemblance must be simple.

Now in certain cases of resemblance try to find the difference which is nothing but bare difference. You find only a difference which still contains some part of the identity. The attempt to get rid of this identity, and to bring out the difference bare and pure, can never succeed. And ∴ difference is not separable, and ∴ resemblance is not composite. And ∴ it is simple, Q. E. D.

Now apply—if you think it worth while—this principle to the concrete instance of a series. If the steps of a series are not simple, you must be able in each case to separate the difference

and the identity. And the differences themselves clearly must not have any serial character. For, if so, they would contain identity, and not be pure differences. They would be the series itself over again, and not the bare differences *of* the series. Thus in a series *ex hypothesi* the constitutive differences (if they exist) *must be* serial, for otherwise we are left with bare identity, and the series has vanished. But if, on the other hand, the differences *are* serial, still the series is gone, because its differences now do not exist. They are taken in connexion with and not apart from an identity; that is, they are not pure differences and so not differences at all. But the effort to find pure differences leads to the infinite regress and fails. Therefore the differences do not exist; and therefore the steps of the series (and I suppose the series itself) are simple. Therefore resemblance must be simple,[1] Q. E. D.

Now if the object were merely to disprove the view that resemblance consists of two "parts," would it not be better simply to urge that identity and difference, if so taken apart, have each forfeited its character? That is the way of disproof which I should have thought was as plain as it is old. And then to argue from the proof that resemblance is not thus composite, direct to the conclusion that therefore resemblance is simple—is (I should have thought) to offer us an equally plain and familiar fallacy. Hence, probably I have not understood the argument which has gained Professor James' applause.

I am myself better acquainted with this dialectical way of reasoning when used to arrive at a very different result. I know it better when employed as a means to prove that we have not separable parts, but inseparable aspects. But then it has not been picked up and applied for one particular end, but has been worked systematically and in all directions. Professor James would be invited, *e.g.*, to exhibit a simplicity which was barely simple and not qualified, at all or in any way, by complexity. And then the same infinite process would be forthwith set up. But as this is all the common property of philosophical students, I must once more presume that I have not understood what, as I understand it, has no value. But I doubt if the fault can be entirely on my side. And with this we may perhaps pass from Professor Stumpf's dialectical argument.

At any rate, I may be told, in fact there *are* simple impressions,

[1] I have here perhaps proved too much, but this may be all the better. So far as I see, a dialectical argument, the same as Professor Stumpf's, might be used to destroy Professor James' view of a series, if, that is, for him, in any sense, the perception of a series contains a common element and a diversity. As however I have no clear statement as to what Professor James understands by the unity of a series, I cannot offer a criticism which would have to be conjectural.

and these decide the case. What precisely they would prove and disprove, if they *were* anything real, would be a rather large inquiry. It would be a question certainly not confined to one special problem in psychology. But as this matter is (if I may say so) somewhat old ground with me, I may perhaps refer to what I wrote some years ago. I had been urging that association by Resemblance could be in all cases explained by Redintegration. And I then went on to say:—

"It may be objected, in the first place, that, if the sensation is simple, this theory will not work. I admit it, and I should be sorry if in such a case it *did* work. I would rather that any theory, which I adopt, did *not* explain impossibilities. And that any actual presentation should be simple is quite impossible. Even if it had no internal characters, yet it must be qualified by the relations of its environment. And this complexity would be quite enough for the purpose."[1]

Simple impressions, in short, are mere abstractions, falsely taken to be facts. And I venture with great diffidence to add that this elsewhere seems to be the view held by Professor James himself. By simplicity he on other topics appears to mean a character which excludes not diversity, but only separability and partition. A whole in this sense would still be simple, however complex it might be, so long as it were integral, and contained inseparable diversities. But, if so, Professor James' argument against identity bodily disappears. It holds as a disproof only of *one* untenable view of identity. And, if so, obviously the further dilemma with its conclusion is vicious.

There is a view (Professor James must be well aware) which holds that identity and difference are complementary aspects, that the one aspect may be emphasised here, and the other aspect there, but that an attempt to isolate them leads everywhere to an infinite regress. And, of course, this view insists that identity and difference depend always upon content. They are both—to use Professor James' expression—"qualitative," or else nothing.[2] Now certainly a view may exist, and yet be so contemptible as to be treated fairly as non-existent. But then a man, who holds that view, is curious to know something of the ground for such contempt, at least in the case of a writer whom he has been led to respect. And, therefore, I turn for further information to Professor James.

"The vanishing of all perceptible difference between two

[1] *Principles of Logic*, p. 307. I would venture to refer the reader to the rest of this discussion on Resemblance.

[2] Identity can be taken *also*, in some cases, to involve continuity, but here qualitative sameness is, of course, still essential. Suppose it gone, and then see what identity is left. And mere continuity itself—does not that in the end imply an identity of content? Where otherwise lies the unity of temporal duration?

numerically distinct things makes them *qualitatively the same*, or *equal*. Equality, or *qualitative* (as distinguished from numerical) *identity*, is thus nothing but the *extreme degree of likeness*," p. 532.

Well but *of course* we want to know if likeness implies any difference—Yes or No—and again further if an *imperceptible* difference will do. We want to know this, because the extreme degree of likeness, if difference *is* necessary, will surely not be likeness at all. And, if there is to be *no* difference—I wish Professor James would help me to answer the question, how things in that case can be distinct. Because suppose (as I cannot) that things distinct possess no other difference in quality, yet it seems to me that you must either qualify them by their relations or not. It must be Yes or No—which you please—but, so far as I can perceive, not both at once. If it is Yes, I can see no way to deny that the things are now *perceptibly* diverse. If it is No, I cannot understand, for the life of me, how *they* are now different at all—at least to human beings. In short, a distinction without any difference, and a series involving degrees but degrees of nothing—are to me hopeless difficulties. If these things are plain to Professor James, I cannot believe it would be a misemployment of his powers to make them plain to us others—for I need not say that I am not alone in my unwilling blindness. And, if I have fallen myself into some vicious dilemma, I have been waiting for years for some kind hand to help me out. But, if again a psychologist is not called on to vex himself with these idle problems, then perhaps also he need not entangle himself in dialectical subtleties, which, if they are good at all, seem only good when one carries them through. But who am I that I should dare speak to Professor James of the dialectical method?

I should like to end this Note with two or three remarks. I would plead first that, if it has seemed unduly long, the issue involved is one of very great and wide-reaching importance. And next with regard to the perception of a series I would repeat that I have not attempted to explain this in passing. It is a problem in any case delicate and difficult, but, if we once discard identity, then I think much worse than difficult. Our one chance lies in maintaining the vital, the inseparable, connexion at every point between identity and difference.[1] But I certainly cannot end without another expression of my great and sincere admiration for Professor James' work. If it is not free (and how many books are free?) from lapses, those lapses leave its level something very much above the common.

F. H. BRADLEY.

[1] And suppose that we find that a certain perception is inexplicable and ultimate. Are we from this to conclude that it is therefore simple? If in what is ultimate we find diversity of aspect—where is the inconsistency?

PROF. BAIN ON PLEASURE AND PAIN.

Any psychologist who offers for consideration a theory which is new in matter or form, must be gratified to discover the impression made by it, upon a veteran like Prof. Bain: the critical remarks appended to his articles on Pleasure and Pain (MIND, N.S., No. 2) doubtless give such impression of the theory I have defended. In the interests of a clear understanding of the theory in question, I think it best to say a few words in explanation of the objections raised by him. I shall consider his sections as numbered from pp. 182 to 187.

§ 1. This section calls for little remark, as we are in substantial agreement throughout, although some of Prof. Bain's statements would have to be put in different language to fall in line with my notions.

§ 2. The reader will note that Prof. Bain agrees that "there is no necessary contradiction or contrariety between the law of change for the sake of change and the law of expenditure of renewed vigour"; but he thinks that "the two facts are distinct in their nature, and each needs to be studied on its own ground, and not to be inferred from the known workings of the other". Certainly, if the narrower law of pleasure obtained in "change for the sake of change" can be shown to be a special case of "the law of expenditure of renewed vigour" it will be a logical gain, and in my opinion there is little difficulty in so doing; for change implies the rise of elements of consciousness which have not been presented for a time; in physiological language, the activity of organs which have been well rested, and are capable of the "expenditure of renewed vigour".

All the examples given by Prof. Bain to mark this objection may be covered by his formal statement, "an organ is at its very best in point of preparation for activity by being exercised up to the proper limits, without the loss of a single day; . . . but to obtain the other pleasure there must be longer periods of remission, even at the cost of inferior vigour in resuming the exertion". Constant practice is necessary for the most efficient action in any line, because it brings about the action of the organism as a unit (more or less) in subordination to the special action which is perfected. Let this practice be intermitted, and at once the other activities of the system which had been subordinated again arise, and some of them become the controlling ones: when the intermitted activity is renewed, there will be pleasure connected with it (due to the nourishment through rest), but the subordination of the general system necessary for the greatest efficiency in the narrow line will not hold: what is more, the intromission will have changed the nutritive habits, and as a result of the intermitted practice when the action is renewed, as in the case of General Wolseley's horses mentioned by Prof. Bain,

although this action will be unusually pleasurable for a time, at the outset there will result a quick loss of ability, because of the failure of the nutrition, until the old nutritive habits have been re-established. Introspection corroborates this general view, for I think it will be agreed that the perfect efficiency of which Prof. Bain writes is only obtained by a concentration, a narrowing of attention. This means an adjustment of higher centres, which will be easily put out of relation by lack of exercise. What is more, this kind of perfection on limited lines involving such constant practice does not leave room for any nutritive *accumulation*, and it is natural, therefore, to find that such perfection of skill, after the *first moments* of exercise, does not give great fulness of pleasure to the performer, in the psychic elements which are directly coincident with the skilful activity. The *virtuoso* in any line finds his constant effort laborious. The delights he gains are indirect, through the sense of power over others and in connexion with their devotion to him. Let the skilled man be cut off from this laborious practice, however, and he soon begins to crave the intermitted activities as the organs involved become over-prepared through "nutritive momentum": when the opportunity for activity returns he may have lost the balance implied in the perfection of adjustment he once displayed —but he will experience an intensity of enjoyment that the full practice did not give.

§ 3. It seems clear to me that "destruction of a sensitive nerve tissue involving injury to a nerve" implies that the nerve organ "is subjected to a stimulus after it has not merely lost surplus vigour, but has got into an impoverished or deteriorated state". The first statement above quoted is one of relatively narrow application, while the latter statement has been found to have a very wide application, and I see no logical basis, therefore, for holding that "neither can be stated in terms of the other". I would note that Prof. Bain's examples here appear to me to be unfortunate, for we cannot claim any very accurate knowledge of the mode of activity in the taste organs. Examination of the other sense organs has shown that what were formerly thought to be simple organs, are really bundles of separate organs, to speak roughly; and the experiments of Vintschgau[1] clearly point in the same direction, so far as taste is concerned. At all events, I think it must be granted that there is much evidence in favour of, and no evidence controverting, the notion that the bitters and sweets are brought to consciousness through the agency of different terminal organs, and this being so, there seems to be no difficulty in supposing that while sweets are usually (but by no means always) pleasant, because coincident with the activities of organs

[1] Confer Hermann's *Physiologie*, vol. iii. part ii. pp. 157 and 209. Vintschgau's experiments have been repeated and verified by Dr. C. L. Dana, and doubtless by others.

which have storage capacity; on the other hand, that the organs which are affected when we experience bitter tastes have little power of storage, so that they very soon become exhausted and bring pain. That they *always* bring pain, I think cannot be shown. Bitters are not always unpleasant where the stimulation is small in degree and is not too long continued.

§ 4. I do not grant that consideration of "the wide region of the stimulants, in the shape of drugs," shows "the necessity of qualifying the literal statement of the doctrine we are discussing". It has not been shown, in my opinion, that "such stimulants retain their pleasurable efficacy long after the *nerves affected* have sunk below par," if the words "*nerves affected*" refer to the organs which are active coincidently with the pleasurable elements of the psychosis. It is, of course, true—but this is quite apart from the law under discussion—that the content may be pleasurable (because involving the action of artificially nourished organs), while at the same time the system, taken as a whole, which, apart from the special pleasure under consideration, gives no pleasurable content, may be moving towards "total bankruptcy". The difficulty here seems to consist in a failure to hold clearly in mind that the law which is criticised relates to the organ of the content, and not to the health of the organic system as a whole; that Prof. Bain fails to grasp this distinction is clearly shown by the latter portion of this special criticism.

§ 5. Since Prof. Bain's criticism was written I have made clearer my notion of the relation of the theory under discussion to the important region of æsthetics.

The pleasures of Harmony, in the wide sense in which the word is here used, are, I think, explained with no little success in terms of the theory before us. For Harmony in all cases implies common elements in the two mental complexes which harmonise: there is a demand for the common element from two sources; the stimulation of the organ of this element from two quarters at once; a condition of hypernormal stimulus which, under proper nutritive conditions, must bring Pleasure. "The extraordinary increase of pleasurable intensity due to minute adjustments of the combining elements in a work of Art" presents no insuperable difficulties. The pleasurable elements either act by a process of summation and are enduring because the Genius strikes the means by which to eliminate pains, which the ordinary worker cannot keep from clashing into what would otherwise be a pleasurable field; or else they are connected with a narrowed attention. In this latter case we have a vividness of Æsthetic thrill, which is determined in the first place by the elimination of painfulness, as in the first case, so that attention, undistracted by annoyances, is able to become concentrated upon the object presented. Beyond this, however, concentration of attention always involves an intensity of psychosis; the intense coincident nervous activity may produce an overflow of energy into the

general nervous system, which, not being governed as usual, may bring into experience that wide thrill so commonly noticed. When this concentration of attention determines activities in organs well prepared by "nutritive momentum" in a manner which I have attempted to sketch out, this thrill must bring a striking pleasure such as we find. That the difference between the ordinary man and the Genius in æsthetic production of any form can be stated in detailed scientific form is not to be expected. The complication of combinations by which the Genius avoids pains and accumulates pleasures is indefinitely large, and that nature has given to him the ability to discover these combinations is what constitutes him a Genius. Were the flashes of Genius not too subtle to grasp, we should all know the way, and his "inspiration" would not be acknowledged. It would of course be impossible to hold (see p. 17 of Prof. Bain's article) that "minute adjustments of over-tones" made the difference between an average singer and a Jenny Lind. The difference is far deeper. The Genius takes hold of us body and soul. The "average singer" touches us *superficially* and cannot bring about the fascination which goes with the elimination of distractions and the concentration upon delights which are stimulated through our whole being. That Prof. Bain makes too much of this superficial aspect is, I think, clear in the latter part of this fifth criticism, to which I now turn.

Here I would note again the failure to distinguish between the vigour of the organism and that of the organ active in giving the content. "The very harsh discords" may have very "special connexion with nervous exhaustion" in the organ, even when the system in general shows "the highest possible vigour of the nervous tone". It is to be noted also in opposition to Prof. Bain's position, that very vigorous people can endure harsh noises, which are intolerable to the invalid. But, on the whole, I think it is an exaggeration to hold that very vivid pleasures are to be obtained out of any mere "concords of sweet sounds," if we limit our mental content to the sounds themselves and cut off all wider effects; or to hold that any very vivid pains are to be reached through a content of mere tone harshness, apart from any of the hypernormal stimulus connected with what we call loudness.

§ 6. What Prof. Bain calls "the slightest conceivable contact on the skin" involves not only a very considerable stimulation of certain particular tactile organs, but also a summation of such stimulations. The thrill connected with the embrace, it seems to me, is closely allied with the æsthetic thrill above discussed, and is to be explained in similar manner.

§ 7. Of this closing criticism I have to say only a word. I do not despair of being able to cover the ground in which Prof. Bain sees so much weakness more fully than has been possible in the articles on which he has based his criticism. The amicable

pleasures, I think, can be shown to be related to Joy; in other words, can be shown to be determined by the very wide moderate hyper-stimulations which always go with Love. The malevolent pains are very much exaggerated in people of our type by repression. That malevolence is for many people often pleasant Prof. Bain has himself argued: but usually malevolence is restrained, and being a very powerful impulse, the restraint is exceedingly distressing: on the other hand, when unrepressed, the malevolent activities involve excessive strains in certain narrow lines, and if these unusual activities are continued for a length of time they naturally beget pains. It seems to me that no quantitative estimate can well be made of the proportion of explanations to cases unexplained; if, however, Prof. Bain still doubts whether my theory "covers one-third of the ground," I cannot agree with him. The reader must judge between us. I find no cases which appear in distinct opposition where we have anything like a thorough knowledge of the action involved, and the vast majority of cases which have presented themselves to me appear to be stateable in terms of the theory. I must hold, therefore, that it would be a loss and no gain to insist upon any other laws as of co-ordinate importance with those which relate Pleasure and Pain to efficient and inefficient activities respectively, in the organs functioning coincidently with the elements which are pleasant or painful.

HENRY RUTGERS MARSHALL.

NAMES AND REALITIES.

The reviewer of my book on Distinction, in MIND, N.S., No. 4, raises a question (p. 553) as to the best way of conceiving the character of distinctions under the assumption that Nature is continuous.

I completely agree that it would be a mistake to suppose that the difference or distinction or change is not as real as the continuity, or that men have made language by taking words at pleasure and using them arbitrarily or perversely to indicate distinctions which are not real. It is not the *difference* that I should call unreal, nor (except for the sake of brevity of expression) the *distinction;* but only the *sharpness* of the distinction, or the *distinctness* of the contrasted notions. This seems to me artificial, or 'unreal,' just so far as the contrast holds good between 'things' and 'names' or notions. I should therefore interpret the doctrine that Nature is continuous to mean that 'things' are not sharply distinct, however sharply they be (in name or notion) distinguished.

It may be worth mentioning further that such an interpretation of the continuity of Nature does not depend upon any special theory of evolution. It does not even depend, for instance, on the familiar doctrine that man and beast are blood-relations,[1] although this truth (if it be true) illustrates one mode in which difference arises out of identity. At most, my view depends on the general assumption that all 'things' are a passing form of a permanent substance, and, as such, have had an origin. But, on a more every-day level, it only requires us to recognise a difficulty, felt in proportion to the closeness of inquiry, in fitting our names to the things or cases they refer to. So that, for instance, the transition from *inorganic* to *organic* matter that occurs when a plant absorbs its food is enough to break down the line between these contradictories. We need not profess to know whether organic or inorganic matter appeared first on the earth, nor how either of them originally came into existence.

The question remains how far the distinction between 'things' and 'names' itself holds good. I have noticed very briefly (in my Appendix) some of the difficulties in answering this question. It cannot, I suppose, be finally answered until we know the 'thing-in-itself'—that is to say, never. Meanwhile, by strict limitation to our purpose of the moment we can always put a value into the distinction between 'things as they are' and 'things as they are conceived'. Though we may never be able to get at the untheorised facts of Nature, we can always distinguish between a more and a less abstract view of the facts,—can always see as clumsy (or artificially distinct) the names we use. Just in the same way, our failure to comprehend Infinity does not matter so long as we can see that any *given* finite leaves room beyond.

ALFRED SIDGWICK.

[1] It is due to my reviewers generally, to notice that only one of them —Mr. A. W. Benn, in the *Academy*—has misrepresented my view in this respect.

PROFESSOR WUNDT ON HYPNOTISM AND SUGGESTION.[1]

Dr. Wundt's tractate appears at an opportune moment. There unfortunately exists at present a certain degree of severance between the right and the left wing of experimental psychologists; —between those who cling to the established methods of the psycho-physical laboratory, and those who follow the wider vistas which hypnotism and kindred studies seem now to be opening up. Dr. Wundt's pamphlet, in spite of the judicial, or rather episcopal, tone of some of its hortatory passages, is, in fact and avowedly, an *ex parte* plea in favour of the older and against the newer or more adventurous methods of psychological experiment. It is well that this plea should be made by so eminent a representative of his own branch of research; but it is well also that it should be discussed, not only by those already committed on the same side (if sides there must be), but also by some of those who estimate differently from himself the probabilities of progress in the two rival fields.

'I'm sure they were talking of me,' said the too self-conscious hero, 'for they laughed consumedly.' I have no evidence that Dr. Wundt is aware of my existence; but I may perhaps assume without undue self-assertion that, if aware of it, he would willingly include me in the scope of all his disparaging remarks. Possibly, therefore, readers of MIND may feel some interest in hearing from me certain comments, which, although intended to be perfectly fair, come, no doubt, as definitely from one side of the controversy as Dr. Wundt's from the other.

Dr. Wundt's introduction begins (pp. 3-9) with a description —which I confess has not a little pleased and surprised me—of the extent to which the 'hypnotism-psychology,' as he terms it, with the belief in telepathy and clairvoyance, which he regards as its almost inevitable sequel, has already permeated not only popular but scientific thought in Germany and on the Continent generally. Knowing as I do how very few persons have as yet done any serious work either in the psychology of hypnotism, or in those cognate inquiries which for sheer lack of a better name we have labelled as 'psychical research,' I am astonished that the influence of this work should already be felt as so alarming. I think, indeed, that Dr. Wundt over-estimates our success; but this over-estimate itself may be serviceable here as prompting him to build a more conclusive dam against what he regards as so powerful a stream of tendency.

Some little misgiving as to the strength of this dam is first aroused when we find Dr. Wundt (p. 9) emphatically repudiating

[1] *Hypnotismus und Suggestion*, von W. Wundt, Leipzig, 1862. (Pp. 110.) In the main a reproduction of an article in *Phil. Studien*, Bd. viii., Heft 1. *Cf.* MIND, N.S., vol. i. p. 441.

the notion that the man who pronounces an opinion on these particular matters ' must before all things have concerned himself with them much and perseveringly '. His view, on the contrary, is (p. 10) that such conversance is in itself a disqualification; since ' the success of such experiments only shows that the people who make them believe in them '. And certainly we have here a formidable difficulty in the way of research, if the very fact of making investigations only proves that one's mind is already made up (p. 9, Wer an Zauberei glaubt, &c.). Dr. Wundt, at any rate, has kept clear of this danger; for he explains (p. 12) that he has thought it right to exclude hypnotism from ' the circle of his researches and the work of his laboratory '; and has confined himself (p. 14) to the subject's ' fast überreichen Literatur '; whose exuberant richness he has indeed controlled by a severe, if somewhat unintelligible, process of selection among the ordinary books.

I. The first chapter contains a description of " The Phenomena of Hypnotism "; which a similar selective choice has reduced mainly to those phenomena commonly observable on the public platform. In this chapter, too, we find the first explanation which Dr. Wundt offers as his own;—an explanation at which it would ill become me to cavil, as I have been in the habit of reading, writing, and believing it for a good many years. Dr. Wundt is speaking of post-hypnotic suggestions;—the performance or perception, that is to say, in the apparently waking state, of actions or hallucinations enjoined during the hypnotic trance. ' So betrachtet man dies,' he says (p. 21),—' *This is commonly treated* as being a hallucination supervening in the waking state '. ' Wiederum würde es aber wohl richtiger sein zu sagen,' ' *but here again it would surely be much more exact to say* that although all other symptoms of hypnosis are absent, this suggestibility to hallucination is itself such a symptom; and a state of partial hypnotisation exists.'

It is gratifying to have this apparently quite independent confirmation of the view so long maintained and so fully illustrated by (amongst others) Gurney, Janet, and Delbœuf.

II. But it is in the second chapter that the explanation of ' the physiology and psychology of hypnotism,' properly speaking, begins. Now there are certain points which experience has taught me to look for in expositions of this dogmatic type. (1) There will be much theory, of a highly speculative kind, as to the cerebral mechanism of hypnotic inhibition. (2) Somewhere or other there will be a personal anecdote, whose opening phrases I can pretty closely predict. ' No, my dear sir!' says my interlocutor, ' your stories are rubbish—muddles of memory—not written down for weeks and weeks after the event. But *I'll* tell you *one* story which is *true*, for it happened to *myself!* Twenty years ago, sir! and as fresh in my mind as if it were yesterday!' (3) Lastly, when some definite puzzle turns up,

such as no manipulation of scientific phraseology will suffice to meet;—the production of blisters by suggestion is a good example;—this special problem will unfortunately be found to lie 'outside the limits of our present paper'.

(1) Pages 24-40 and 45-81 contain a good deal of matter illustrating the *first* of these three expectations. But I will frankly confess that 'it is outside the limits of my present paper' to pronounce between the relative probability of Wundt's 'apperception-centre' and Lehmann's 'vasomotor point of outflow of psychical operations,' as concerned with the inhibitions observable in the ordinary hypnotic trance. Of this much only am I sure,—that no hypnotic experiment has as yet been suggested which can decide such a controversy; and that, were it decided, little advance would have been made in the study of hypnotism whose weightiest problems lie not in its narrowings, but in its extensions, not in its inhibitions, but in its furtherance of faculty.

(2) The inevitable *personal anecdote* occupies pp. 41-45, and narrates how Dr. Wundt, when extremely sleepy, endeavoured to make a typhus patient drink tincture of iodine out of a spoon, under the impression that iodine would soothe his pain. The patient by a fortunate inspiration spat it out, so that the interest of the story is not tragic, but psychological, and lies in the erroneous association of ideas,—of the dark-coloured iodine with dark-coloured laudanum,—which somewhat resembles the hypnotic patient's acceptance of a raw potato for an apple. Dr. Wundt has preserved this incident, he tells us (p. 41), 'ungewöhnlich treu' in his memory; 'so that I can still to-day bring to mind almost the minutest details'. The incident occurred thirty-seven years ago.

I will not dispute Dr. Wundt's asseveration of a memory still accurate across the gulf of a generation: but one feels that under the circumstances he might have expressed a less sweeping contempt of other men's recollections of incidents a few days or a few months old.

> Das Schwören in der Ordnung war,
> Das Beissen war überflüssig.

(3) Dr. Wundt's treatment of stigmatisation and kindred phenomena has an interest of its own. 'Blisters,' he says (p. 23), 'can be produced by the application of notepaper, or in similar ways, if the suitable idea, *e.g.*, that the paper is blistering paper, has been suggested to the subject. Bleedings from the nose and skin, so-called stigmatisations by suggestion, have also been occasionally produced.' The stigmatisations, then, of which, in Louise Lateau's case, Virchow uttered his celebrated 'Ou supercherie ou miracle!' are now quietly smuggled within the scientific pale with no mention of the long years during which they shivered outside it, as types of the nonsense which he only 'wer an Zauberei glaubt' could possibly believe. We look forward eagerly to see in what

way Dr. Wundt has welcomed into the order of nature a phenomenon which the direct interposition of Providence was formerly needed to produce.

But the chapter of explanations moves, for the most part, safely among the *apices physiologiæ*, and hypotheses which we may not rudely test. On its last page only we find the following paragraph (p. 81):—

'Finally, I will not omit to remark that I regard the purely physiological effect of suggestion, which manifests itself through hyperæmia, bleeding, the increase or check of secretions, &c., as in general easily explicable (wohl erklärbar) by the known vasomotor and secretory functions of the nerves, and by my preceding assumptions as to the nature of the cerebral changes during hypnosis. But since this topic lies outside the limits of the present paper, whose aim is psychological, I must here content myself with the above observation.'

III. The third chapter, on 'Suggestion as a Method of Experiment,' consists of criticisms on the vagueness of replies obtainable from hypnotised subjects, as compared with the exact waking self-observation which 'the numerical psychology,' with its instruments of precision, is well adapted to foster and clarify. Here again I shall not deny a difficulty on which I have myself insisted; but I could wish to have had Dr. Wundt's opinion upon that recent development of experimental psychology whose main object is to get clear messages by writing, picture, gesture, or utterance regarding those very phenomena which the hypnotised subject is able only confusedly to explain or recount. I allude, of course, to the study of sensory and motor automatism. Dr. Wundt quotes no English writer throughout this treatise; but since he has one disparaging allusion (p. 38) to an article of Prof. Pierre Janet's, I had hoped that that author's important work, *L'Automatisme Psychologique*, might have fallen under his notice. Yet I infer that it is unknown to him, both from his silence on the subject in this chapter and from a previous passage (p. 66), where he explains so-called 'negative hallucinations' (as when the subject is rendered unable to perceive that some given person is present), as the 'effect of a lessened sensibility of the sensorium to impressions'. After Prof. Janet's elaborate proofs that the facts of which in a 'negative hallucination' the subject appears unaware, are in reality perceived and deliberately ignored by the watchful action of another section or stratum of the personality, it is strange to find Dr. Wundt still holding to the old *primâ facie* explanation of a lessened instead of a specially alert sensibility to the person or object thus designated for disappearance from the subject's apparent or superficial perception. But indeed throughout Dr. Wundt's pamphlet there is a complete ignoring of what is now being done to bring these isolated phenomena of hypnotism into line with a number of other facts of human life; facts rare, misunderstood, or neglected, but which,

when duly observed, make hypnotism for the first time a *retrospectively intelligible* phenomenon; I mean a phenomenon which with our present knowledge we might have been able to predict;—and which suggest, moreover, an ever-widening range of experiments with results whose limit we cannot in any wise foresee.[1]

For Dr. Wundt, on the other hand, hypnotism seems to be a kind of alien, unwelcome puzzle; a sort of meteorite crashing down unpleasantly upon his wonted field of research. He analyses it just sufficiently to pronounce that it is composed of minerals already known; and then confines himself to praying that such intrusive objects may fall on our heads as seldom and as softly as possible. So difficult is it for even the most eminent *savant* to combine the duty of expressing authoritative opinions on any given subject with the duty of excluding that subject from his habitual study and experiment! so perilously probable is it that his exposition may in some degree reveal the ignorance which it is designed to justify!

IV. But the sting of Dr. Wundt's pamphlet is undoubtedly in its tail. His fourth and last chapter, on 'The Practical Significance of Hypnotism,' concludes with a telling passage; for the sake of which we may perhaps conjecture that the preceding pages may in great part have been composed:—

'In truth,' he says, 'as the history of the hypnotic movement in Psychology sufficiently shows, it is not an unmixed scientific interest which has stimulated this inclination to the free use of hypnotic experiment. Rather it is the leaning to Occultism, which, being as it is a conspicuous factor in the intellectual movement of our time, has made itself master, on quite intelligible grounds, of certain philosophers and psychologists of the day. It is, indeed, an admitted peculiarity of Philosophy that she forms a meeting-point, not only for the tracks which mark the age's scientific progress, but also for those which mark its errors and aberrations. Just as for Occultism Hypnotism is "the antechamber to higher secrets," so also do many of the champions of the Hypnotism-Psychology treat "suggestion" as a means of getting upon the scent of a mystical psychology, involving psychical operation at a distance, clairvoyance, and spirit-materialisation. Even among the more rational votaries of hypnotism, who stand aloof from such superstitious errors, the insidious influence of this occultist current is apt to show itself in many ways—especially in the inordinate value—out of all proportion to the actual facts—which they attach to the psychological significance of Hypnotism; often also in their leaning to fantastic hypotheses, which on closer view reveal

[1] I may perhaps refer the reader to papers on 'The Subliminal Consciousness,' and 'The Mechanism of Suggestion,' in Part xx. of the *Proceedings of the Society for Psychical Research*.—(Trübner.)

themselves as rudimentary recrudescences of well-known and widespread forms of superstition.

'Considered as a phenomenon in the history of culture, Occultism is certainly of no small interest; and to follow it through its various phases of development forms an attractive problem in the Psychology of the popular mind. But this scientific interest is as far from affording sufficient reason for desiring the further success and progress of this thoroughly pathological tendency in modern Science, as the scientific interest which a physician takes in a patient's symptoms is from justifying him in the hope that those symptoms may become intenser still.'

'*Durch und durch pathologisch!*' Rarely does a man get the chance of letting fly such a marrow-piercing phrase at his foes! However transfixed, one cannot but feel a literary sympathy with the hurling of such an arrow from the bow;—such sympathy as one feels with a Pope, who knows that his forthcoming Bull will be cited for all time by its initial words, and sits rubbing his hands (as one fondly fancies) in his cathedra, and hesitating between *Impudentissimi homines* and *Error damnabilis*.

Yet I should be glad to get, if I may so say, behind the curse and into the arguments. I should like a solid, scientific definition of Occultism, which should show me in what way my friends and I come within the four corners of the malediction. I had supposed that Occultism meant the asserted possession of knowledge derived from some source hidden from the mass of mankind; and that Masters of Occult Science had acquired some mysterious tradition, only to be guessed at by studying the heading 'Curious' in catalogues of second-hand books. And I had only refrained from calling Occultists, in the lump, pathological, because I had my reasons for supposing a good many of them to be passably healthy and perfectly fraudulent. Cheap and scant as is my own knowledge of the mysteries of things, I am certain that no Mage nor Mahatma nor Mumbo-Jumbo in existence can bestow on me a ha'porth more.

No, the point where—as an *impudentissimus homo*—I venture to question Dr. Wundt's encyclical, is simply as to his right to decide *a priori* whether certain alleged laws of Nature can or cannot exist. I desire not to narrow, but to extend, the range of Experimentation. Is it impossible to conduct an investigation rationally because other men have imported into it their superstition or their fraud? Can we not ignore the fanatic, expose the impostor, and look through the telescope of science as steadily as though there were no monkeys on the watch to jog our elbow? You may call ours the spirit of inquiry run wild, if you will. You may say that we resemble Darwin only in his liking to try 'fool's experiments'; and that we should have been in our right place beside the sensitive-plant when that great

man played to it on the bassoon. Such a scoff might have some appropriateness. But if, on the other hand, we are charged with disregarding observation, with neglecting experiment, then indeed we shall be forced to return the warning upon those who utter it; and to remind them that he who on any *a priori* ground, however plausible, would narrow the world-wide field of scientific inquiry;—he who in disgust at monkey-tricks, however provoking, would desert the attitude of candid disengagement, of resolute openness of soul;—such an one would be pushing his way without a clue into the labyrinthine Universe,

qua signa sequendi
Falleret indeprensus et inremeabilis error.

It is not in such a connexion as this that one would willingly think of Dr. Wundt. A man must be judged by what he has himself done;—not by what he has told his neighbours that they will never succeed in doing. Dr. Wundt's established repute has been well and fairly earned,—if not by any special gift of philosophical penetration, yet by a persistent and effective industry which few men on our side (if sides he will insist on making) have even attempted to rival. Would that we had a few more workers as laborious as he! We have but scratched the surface of a field which will repay the deepest ploughing of many a generation yet unborn.

Frederic W. H. Myers.

VI.—CRITICAL NOTICES.

The Principles of Ethics. By Herbert Spencer. Vol. i. London: Williams & Norgate, 1892. Pp. xii., 572.

This volume contains, besides part i. published as the 'Data of Ethics,' two new parts, ii. and iii., dealing with 'the Inductions of Ethics' and 'the Ethics of Individual Life' respectively. Part iv. on 'Justice' having already appeared, there remain to complete the work the two parts treating of the 'Ethics of Social Life,' which Mr. Spencer hopes (a hope in which we all join) that he will be able to issue shortly. They will, he says, remove "a very erroneous impression" which may be left on people's minds by the parts hitherto published, namely, that the "general tone of evolutionary ethics" is one of sternness. It has in truth seemed to many persons difficult to reconcile tenderness to the weak, not with evolutionary ethics, but with Mr. Spencer's particular exposition of them. As to the general character of these new portions of the work, it is sufficient to say that while they contain no important new principles that have not appeared in the 'Data' or elsewhere in the 'System,' yet as usual Mr. Spencer's old dogs wear new doublets, and the old principles are applied to a great variety of new details and illustrations. Some of his favourite tenets are re-stated with the greatest vigour and freshness.

Part ii. opens by pointing out the confusion which is imported into our ethical thought by the various sources from which conduct derives its authority. Originally ethics[1] is identical with religion; the will and habits of the gods are the standard of conduct. Moreover different social conditions require different conduct, and the average sentiments become adjusted to these requirements. Hence the growth of two kinds of codes, the "ethics of enmity" and the "ethics of amity," as they are happily entitled, required respectively for a life of external aggression and conquest, and for harmonious internal co-operation. Since this co-operation is helpful for conquest it becomes embodied in the moral code and is supported by the authority of rulers. In addition we have utilitarian conceptions derived from recognition of consequences naturally produced, and apparently also conceptions (p. 320) irrespective of observed consequences, produced by the discipline of moral life and constituting moral intuitions. Our ethical ideas are a mixture from all these sources. The ethics of enmity are retained from an earlier stage and co-exist

[1] Mr. Spencer uses the term "ethics" indiscriminately of actual conduct ("morals") and of thought about conduct, or of the science of conduct.

with the ethics of amity. Mr. Spencer plays on a familiar string when he dwells on the contradictions into which we, and especially the clergy, are drawn from the "thin layer of Christianity overlying a thick layer of Paganism," and he is nowhere happier than in speaking of Paley, "who in his official character derived right and wrong from Divine commands, and in his unofficial character derived them from observation of consequences". He is, of course, merely describing an incontrovertible fact, but an unwary reader might carry away the impression that Mr. Spencer thought the clergy morally blamable. This would not be quite fair, since if nations must go to war, preachers of the Gospel are citizens as well as clergymen and could hardly be expected to weaken the energies of their countrymen by denouncing as guilt what may be an inevitable necessity. Very little excuse can however be found for the bishop who is responsible for a wish reported on p. 317.

In chapter ii. Mr. Spencer draws a distinction between ethical ideas, which are strictly ethical, and those acted on by the mass of mankind, which he calls pro-ethical. The distinction is based on the authority recognised, and, to speak roughly, it is the difference of extrinsic and intrinsic morality. In pro-ethical conduct (why not *pre*-ethical?) the idea of obligation arises from the consciousness of some external authority, whether the God, the dead ancestor, the living ruler, or public opinion; and along with this consciousness goes, according to the analysis given in the 'Data,' the element of coercion, together with the represented opinion of other individuals, which it is not easy to distinguish from the authority of public opinion. The true moral consciousness, on the other hand, or conscience, "does not refer to those extrinsic results of conduct, which take the shape of praise or blame, reward or punishment; but it refers to the intrinsic results of conduct, which in part and by some intellectually perceived, are mainly and by most intuitively felt. The moral consciousness proper does not contemplate obligations as artificially imposed by an external power; nor is it chiefly occupied with estimates of the amount of pleasure and pain which given action may produce, though these may be clearly or dimly perceived; but it is chiefly occupied with recognition of and regard for those *conditions* by fulfilment of which happiness is achieved or misery avoided" (p. 337). And along with its establishment the sense of compulsion or coercion disappears. The distinction is introduced in order to indicate that there is a large body of conduct, very different at different times and places, and sometimes flagrantly contradictory to our own ideas, which carries with it the sentiment of rightness and must therefore be considered as moral conduct. It is certainly a valid and important distinction. The pro-ethical man, if asked, will justify himself by reference to a different standard from the ethical man. But the above statement is not without ambiguity.

The words might be taken to mean merely a difference between seeking rewards and seeking intrinsic personal or social welfare. But seeking rewards merely would not be moral even in the eyes of the savage; the authority of morality which the savage recognises, however external, is accepted by him and regarded with disinterested reverence, as much as the most intrinsic standard of the later man. Mr. Spencer himself enforces this by showing how sentiments of approbation attach to these absurd and revolting customs of primitive men. Their moral sense then differs from ours only in the nature of the authority recognised; and the distinction therefore, important as it is, does not indicate a real moral difference. Moreover, with ourselves ethical ideas, when they have become habitual, drop into the pro-ethical condition. Nor, it may be observed, does the sense of compulsion vanish from the higher form of conscience; it has only become internal, instead of external. And supposing the absolute state attained in which no such compulsion of the stings of conscience were ever necessary, conduct would have become actually instinctive, and the consciousness of an authority might be dispensed with. In commenting on the above definition, it is worth while to refer to the way in which the contrast of utilitarianism and an evolutionary conception of the standard is expressed.

In the remaining chapters of this part, Mr. Spencer confines himself to the varieties of pro-ethical ideas, illustrating them chiefly from savage customs, from which, as he says, ethical ideas, as defined by him, are absent. The successive chapters deal with Aggression, Robbery, Revenge, Justice, Generosity, Humanity, Veracity, Obedience, Industry, Temperance, Chastity. The important generalisations drawn are the following: that the mere existence of certain customs generates corresponding sentiments of obligation towards them; that moral conduct differs according to the different social, economic and political conditions; that the ethics of enmity and the ethics of amity correspond to a well-marked distinction between societies engaged in warfare and peaceful societies. In defence of these positions a great mass of evidence, some of which forms very entertaining reading, is marshalled, which, however, it is unnecessary to refer to at length. Mr. Spencer himself points out that, independently of the varying value of the testimony, "where data are numerous and inexact, the conclusions must be proportionately indefinite". And certainly the conclusiveness of the evidence varies very much in the case of the different virtues and vices. The effect of the predominance of a military regime in creating the ethics of enmity is more obvious in the case of aggression, robbery and revenge, than in the case of veracity and temperance. The condemnation of duelling in industrial England as compared with the approval of it in military Europe is a type of the kind of evidence produced; or the disregard of what we call justice, such

as imposing labour on women among savages engaged in conquest, and the sparing of women's labour by peaceful tribes. On the other hand, with regard to truth, some truthful tribes are warlike, while there are others that are peaceful. But Mr. Spencer finds that in both cases the people are not subject to despotic government, and he seeks to make out the general connexion of war and lying by pointing to "the coercive social structure, which chronic external enmity develops, and to the non-coercive social structure developed by a life of internal amity". The observations in respect of chastity are not very clearly made out in dependence on a military regime. When there is much violence a great population is desirable. But unchastity does not promote population. On the other hand, it is true that militant societies become naturally polygamous, and the position of women is in general degraded. Again, temperance is shown to depend very largely upon natural conditions of life, such as the occasional gluttony of the Esquimaux, described in an amusing passage (p. 437). Mr. Spencer points out (p. 466) that ideas respecting temperance and chastity may "display less intelligible relations to social type and social development, than do the ideas and sentiments concerning co-operative conduct," because the evils entailed on the community are indirect, though it is difficult to see how this can be the case with unchastity.

In judging the value of these generalisations we have then to bear in mind the want of strength of the evidence in the case of some of the virtues. The general position that different social conditions determine different codes of conduct cannot be doubted; the influence of peace and militarism is less well established though strongly supported. It is not easy for any one who is not a learned anthropologist to know how far opposing data may be advanced from other quarters. It is certain however that such a detailed account of the moral ideas of savages as Mr. Spencer has here presented is badly wanted and has been hitherto unattainable. Mr. Spencer may be confirmed in his expectation that the evidence which he set forth will fail to convince those who believe in the originality of moral ideas. The evidence is absolutely conclusive against such a doctrine. But so also was the evidence adduced by Locke, though infinitely less abundant. We shall still hear of an identity of tendency in repugnant ideas, and the distinction of what is implicit from what is explicit is always available to point the belief that savages are implicitly temperate because they are not always drunk. Mr. Spencer of course accounts for the immediateness of the moral sense in his own way as due to the gradual formation of sentiments in the structure of society and its individual members.

Part iii. deals with the 'Ethics of Individual Life,' that is to say, with the properly self-regarding duties, and those of the family. The subjects discussed are the following: Activity,

Rest, Nutrition, Stimulation, Culture, Amusements, Marriage, Parenthood. With the exception of culture and amusements, they concern almost entirely the physical functions of man, which are properly treated by Ethics, according to that biological view familiar to us from the 'Data,' which considers human life as part of life at large. The insistence on the moral character of those activities was one of the marked features of the earliest instalment of Mr. Spencer's treatise. Though they are often imagined not to be ethical at all, yet it is plain enough that if not in themselves, yet in so far as we direct them deliberately, or as they enter into the scheme of life, they are as much conduct as the higher activities, and Mr. Spencer is perfectly right in saying that "a theory of right and wrong which takes no cognisance of nine-tenths of the conduct by which life is carried on is a folly". The chapters constitute naturally something like a treatise on education, and recall Mr. Spencer's earlier work on that subject. Mr. Spencer writes of these apparently trivial matters with seriousness as they demand, and this lends an unconscious humour to some pages of this part, such as those which discuss the use of stimulants; which as not supplying nutrition, but only quickening the rate of nervous action, are entirely illegitimate in a state of absolute ethics, but may be permitted in this relative state, where many men are almost inevitably overworked or depressed—where even a reviewer must consult not his own occasions but the urgency of his editor.

The conduct discussed is that which concerns the individual as such. Yet in accordance with the theory of egoism and altruism laid down before, the good of the individual is not kept apart from that of society; but, on the contrary, what promotes his welfare in these regards of self is shown carefully at the close of each section to be also the best for society. In presence of the sentimental altruism with which much contemporary theorising about conduct is tainted, this insistence on the claims of self is of the highest practical importance. Mr. Spencer repeats his demonstration that general altruism is suicidal. He might have added that excessive altruism is the very refinement of selfishness. But owing to Mr. Spencer's belief in the natural primacy of the individual over society, we come across statements which are of course repetitions of his well-known views about practical policy, but seem to indicate an incomplete recognition of the social character of even the most self-regarding and rightly self-regarding acts. He declares against the interference of the State with education in his familiar manner, on the ground of the right and responsibility of each parent to train his own children. In an interesting passage (p. 333) in part ii. he observes: "Now a householder who has refused to fill up the census paper, or a pedlar who has not taken out a licence, feels that he is regarded as not only having broken the law, but as morally blameworthy; whereas the pedlar's act in selling without a licence is morally

justifiable and forbidding him to sell without a licence is morally unjustifiable, is an interference with his due liberty which is ethically unwarranted". Yet there is no proof given that this liberty is "due". The State encroaches in fact perpetually upon the liberty of individuals wherever danger to the interests of the whole is involved. Only those encroachments are bad which hinder independence of character. The insistence by the State on education applies only to those who would otherwise not be educated and from whom therefore we could not expect their full efficiency. The extent to which the State should go is surely only a question of greater efficiency. And there is no inherent right in the individual as such. Nor, though this is scarcely the place to enter on such an inquiry, is Mr. Spencer describing the views of his opponents correctly when he declares them to believe that society is a "manufacture not a growth" (p. 545). They believe only that one important determining element in the growth of society is to have a direct conception of what social state they wish to bring about. Elsewhere, as in Mr. Spencer's assertion, that "natural equity" demands some sacrifice for children from those who owe their existence and rearing to the past generation (p. 533), we have an appeal to an apparently *a priori* principle. A pessimist may maintain that one generation has nothing to thank its parents for, and is under the contrary obligation of bringing no children into the world to undergo misery.

The separate chapters on 'individual' conduct are handled with admirable skill, at sufficient length to sketch the *raison d'être* of each kind of conduct, and briefly enough not to be tedious in the discussion of matters of such familiar concern. They form part, I suppose, of that code of absolute ethics, Mr. Spencer's conception of which is so problematical, which however, if understood as meaning either the best in our present conduct, or something better than our present conduct, would be accepted as a legitimate and valuable guide in practical reform. At the same time these chapters bristle with debatable points. In chapter ii., on 'Activity,' after making the just remark, that the moral judgment is bound to take account of the very different cost of exertion to different persons, Mr. Spencer raises the question whether the human constitution can be so adapted to its present conditions that the needful amount of labour to be gone through will be agreeable. Answering that this may be anticipated, and declaring that absolute ethics condemns labour which taxes the energies beyond the normal limit, he concludes also that adaptation to the social state will not produce a capacity for labour beyond that limit. If this means that it will produce an actual incapacity for such labour, the conclusion is a very bold one. All overwork is at present attained at the cost of some bodily or mental exhaustion; why should this be impossible then? What greater progress tends to produce is a set of social

conditions which will not require and will not allow labour beyond a certain point. But it is strange that Mr. Spencer should not recognise that this is actually the ideal of his opponents the collectivists; while the practical question of whether the whole society or associations of individuals should effect these changes, though of very great difficulty in itself, is still only a question as to the easier means. It is hard to distinguish in principle between the coercion of the trade-union and that of a state founded on the will of the people themselves.

Without describing each chapter in detail, in which case this notice would become almost as long as the book, some of the special points of interest may be noted. Some of them are merely wise observations, obvious enough when stated, yet important, partly because they are often overlooked, partly because they are stated here with their physiological justification. Such are the statements that different persons require different amounts of rest (c. iii.), and that the ethical judgment must not be passed indiscriminately in this connexion, or that it is wrong to eat when you are not hungry. (Mr. Spencer overlooks, however, the practical necessity of fixed meals.) Such also is the treatment of celibacy and marriage (c. viii.), where, after indicating the evils, physical and mental, of the celibate life, Mr. Spencer proceeds to discuss the question of improvident marriages. Condemning these, he yet points out that the age at which marriage takes place is by no means indifferent; infants born of mothers between the ages of 20 and 25 showing a lower rate of vitality. These discussions suggest irresistibly the minute directions given by the founders of ideal commonwealths in Greece and later times. When Mr. Spencer speaks of *mariages de convenance* as described "with some show of reason as legalised prostitution," he makes a very sweeping statement. Some such marriages may be open to his condemnation, and are always likely to be so in a society like ours, whose sentiments are averse from any marriages but those of affection. Yet the condemnation cannot be extended to the French system, which is said to produce as much happiness on the whole as ours.

In the chapter on 'Nutrition' (c. iv.) Mr. Spencer comments on the want of candour with which these perfectly legitimate pleasures are sometimes treated. Both here and in the chapter on 'Amusements' (c. vii.) he ascribes the concealment or the hostility with which these claims are treated as due to the ascetic bias given by religion. This is doubtless perfectly true, but Mr. Spencer exaggerates the force of this bias in practice. Asceticism has been the bugbear of English moralists since Bentham's time, but our practice is often very different from our theories about it. In the chapter on Amusements (where the language used of certain forms of athletics, like football, seems again to be exaggerated) Mr. Spencer deprecates much theatre-going, which, like much novel-reading, uses up the feelings for

imaginary objects and leaves none for real objects. This is exactly the opposite of the ground on which Plato condemned theatre-going, that it made the spectators sentimental or made them copy the passions of the stage in real life as well. That this is also true no one can doubt who has been privileged to overhear the remarks which fall occasionally from persons in the pit who are unable to conceal their feelings. Mr. Spencer's deprecation of excessive indulgence of the imagination connects with his general treatment of literature in his scheme of 'Culture' (c. vi.), his views on which are well known. 'That a fair amount of this [literary culture] should be included in the preparation for complete living needs no saying. Neither does it need saying that in a duly proportioned education, as well as in adult life, literature should be assigned less space than it now has.' The question is too thorny to be handled here, but there can at least be no doubt both that the place assigned to literature in the education of all is excessive, and that its indiscriminate cultivation to the exclusion of natural science and other objects of study is both unfair and bad for education and disastrous to literature itself. Perhaps our children will feel it as much a sign of an uneducated and illiterate person to be ignorant of some branch of natural science as it is with us to be ignorant of literature. In this chapter we may note Mr. Spencer's insistence on the value of cultivating manual dexterity and his complaint that it is neglected. He seems to forget that the kindergartens have done something already for this end. He repeats too his objections against the higher culture of women, as placing too great a strain on organisations intended specially for the continuance of the species. Over-culture of women is to be condemned undoubtedly, as over-culture for men. But for the opposition against higher education of women in general experience does not appear to bring any adequate justification. All that we have to be prepared for is that, after a full and free trial, some studies and some methods may possibly turn out to be inappropriate.

This part concludes with an interesting passage in which Mr. Spencer points out the relation of the rule of life laid down in these chapters to the doctrine of the mean, and the conception of a proportion between the various activities. The criticisms on Aristotle's doctrine of the mean do not seem particularly happy. Aristotle has himself said that every virtue is an extreme in respect of its attainment of the end. His doctrine equally with Mr. Spencer's demands complete adherence to a contract and complete veracity. Veracity is not a mean between "the two extremes of falsehood and truth," but between over-statement and under-statement. The applicability of the idea of the mean to justice is indeed not clear. (Mr. Stewart discusses the difficult question in his *Notes*, vol. i. pp. 473, 4.) And it must be admitted that the notion of the mean is of very little or no guidance for discovering what is right; it is a definition of what is right when

the right is known. The really fruitful notion is that of proportion between various activities, to which the idea of the mean may well lead on when it is thought out. Of this notion Mr. Spencer enforces the importance. It may in fact be maintained that this establishment of a due proportion between different parts of conduct in the individual constitutes the whole reason for considering any one part of conduct good.

S. Alexander.

A History of Æsthetics. By Bernard Bosanquet. London: Swan Sonnenschein & Co., 1892. Pp. xxiii., 502.

English philosophy is certainly not strongest on the side of art theory. The fact that no History of Æsthetics, so far as I know, exists in the language, may perhaps be taken as illustrating this weakness. Mr. Bosanquet has come to the rescue of our endangered philosophic reputation and has produced a book which will doubtless command a certain attention. It is learned, especially in the lore of the Germans, is thought out with some amount of originality, and to a point of subtlety that will be apt to perplex the unready. It shows in combination with metaphysical acumen a certain range of æsthetic sensibility. It is fitted to stimulate thought on some important problems in the theory of art. Whether it is a book that adequately deals with the distinctively modern problems of the æsthetic consciousness, and whether it specially addresses itself to the English mind, are questions which we may better consider after giving some account of its general plan.

The author begins by defining what he thinks to be the province of a history of æsthetics as distinguished from a history of art. It is at once a history of speculative ideas, and of these in their relation to the successive phases of what we may call the concrete æsthetic life. In this way it requires first of all a definition of beauty as its subject-matter, and this Mr. Bosanquet proceeds to give us. In this he seeks to combine the two factors emphasised respectively in ancient Greek and in modern æsthetic theory, *viz.*, formal beauty (harmony of parts, &c.) and significance or characteristic beauty. The definition runs: "That which has characteristic or individual expressiveness for sense-perception or imagination, subject to the conditions of general or abstract expressiveness in the same medium". This not too lucid formula means, as the whole after-course of the exposition plainly shows, that all beauty is ultimately significance or ideal content. Whether the attempt at formulating a single comprehensive principle of beauty at the outset is helpful to the history of the manifold movements of the concrete æsthetic life which Mr. Bosanquet includes, or even of the several rival theories of beauty, will appear as we go along. It at least offers a useful point of reference for critical appreciation, and, as might be

expected, the author is at least quite as much critic as historian. The second feature referred to in the definition of his territory, the connexion of theory with the concrete æsthetic consciousness, leads the writer to take a plunge now and again into the stream of art criticism, and to note the bearings of the development of æsthetic sentiment and of art-production on speculation. This is one of the most valuable features of the book, and is only unsatisfactory because it has not been done completely and impartially.

Greek theory naturally comes in for the first review. The author seeks to show that Greek art was less 'abstractly ideal' and more sympathetically expressive than has commonly been supposed: yet on the whole it represents the non-significant or formal conception of art. Greek theory is reduced to three fundamental principles: (1) the moralistic which subordinated art to a moral purpose, (2) the metaphysical which made the value of artistic presentation to reside in imitation or faithful reproduction of something valuable in reality, and (3) the true æsthetic principle, unity in variety. Mr. Bosanquet's treatment of this part of his subject is scholarly and instructive, yet it may be doubted whether he does not put too heavy a strain on his 'principles'. If it is true that both Plato and Aristotle were "encumbered with moralistic considerations" throughout the whole of their inquiry into the nature of fine art, it is surely no less true that their ethical speculation, as in regarding the essence of virtue to be proportion and a mean, was encumbered with æsthetic considerations. It is not quite clear to me, moreover, why Mr. Bosanquet regards the Greek theory of imitation, as a falling short in value of the reality imitated, as non-æsthetic and metaphysical. The æsthetic problem according to him is the determination of the conditions of beauty by analytic reflexion on its actual presentations. But his whole book shows that æsthetic speculation does not confine itself to the mere phenomenal presentation. In the Hegelian conception of art, which I understand Mr. Bosanquet to accept in its essentials, there is a most direct reference to a theory of supra-phenomenal existence—in other words, to a metaphysical pre-supposition. In fact the whole way of envisaging beauty, natural as well as artistic, as expressive of an idea, seems to imply a system of objective idealism. Compared with this the Platonic notion, that art-imitation was a falling short of reality, is non-metaphysical and essentially æsthetic as expressing one possible view of the relation of nature to art, though of course it may be said to be metaphysical in so far as it hangs together with his whole theory of existence.

Having thus put away classic ideas as far as possible from the modern point of view, the writer proceeds to trace out what he regards as "signs of progress" in Greek theory. Here, as also in the following chapters where he follows the sporadic

manifestations of æsthetic inquiry in the period of Alexandrian and Græco-Roman culture, as also in the writings of the Fathers and of the Schoolmen, Mr. Bosanquet shows himself at his best. In his general contention that there was no rupture of continuity between the æsthetic consciousness of the old and of the new world, he seems to be on safe ground. Criticism might, however, here and there object that the author tends to read a modern meaning into old language. It is almost provoking, for example, to find him when expounding Aristotle's distinctly psychological treatment of the problem of tragic effect, a mode of treatment for which the author's conception of æsthetics hardly finds place, trying to fix on Aristotle the germ of a recognition of the principle of idealisation (pp. 66, 67). Aristotle's thought seems far enough away from Mr. Bosanquet's forced expansions and completions of it.

A chapter headed "A comparison of Dante and Shakespeare in respect of some formal characteristics" is interesting reading, and shows knowledge and ingenuity. Yet it is surely out of place in a history of æsthetics which does not find space for even mentioning some distinguished thinkers on the subject. It looks like an essay that the author felt himself justified in incorporating into his treatise. Even if the differences between the *modos operandi* of the two poets have all the significance the author gives them the detailed account of them surely belongs to a *Literaturgeschichte*. This is not, as we shall see, the only place where the author seems to misapprehend the true scope of his subject.

The account of modern æsthetics opens with a chapter on "The Problem of Modern Æsthetic Philosophy". The author here tries to answer the question why modern æsthetics did not follow upon the art of Shakespeare as ancient æsthetics followed upon that of Phidias, by saying that art retained its vitality till the eighteenth century, so that the material of æsthetic was incomplete. But surely the literary movement of the Elizabethan era raised very definite art-problems, problems of which the great writers were themselves dimly aware, so that one may hazard the conjecture that if Bacon or Locke had had the æsthetic interest he would pretty certainly have given us new ideas on the subject. In tracing the course of æsthetics as a branch of speculation, it seems important to bear in mind that philosophers, through their habit of abstract study, are apt to be out of touch with a subject which is commonly recognised as having more to do with the feelings than with the intellect. The chapter professes to give an account of the development of æsthetic ideas in pre-Kantian philosophy, but it supplies only a meagre and imperfect sketch. Leibnitz, Shaftesbury, Hume, and Baumgarten are the four names included. Why Shaftesbury is named and Hutcheson omitted is not obvious. The account of Hume refers only to the crude æsthetic or *quasi*-æsthetic ideas of the *Treatise*, and makes no mention of the important æsthetic essays.

But a glance at the following chapter soon explains matters. Here we are given what professes to be "the data of modern æsthetic philosophy". This is substantially an account of the discussion of art questions in Germany in the last century by Winckelmann and Lessing. There is, indeed, a reference to the French writers, Pierre Corneille, &c., and the English writers (with the exception of Home) who had much to do with determining the lines of Lessing's critical reflexion. But it may suffice to say that there is no mention of Diderot in order to show that the history is curiously defective. Mr. Bosanquet has more German exclusiveness than the Germans themselves, for even Schasler finds a place for Batteux, Diderot, and other French writers, of whom we hear nothing in the English history. The reason of the omissions is pretty evident. The writer would, it may be assumed, not pretend that the Germans have had a monopoly in art-production, say the drama, or in art-criticism. But, as we all know, Germany has had an almost undisputed monopoly in the construction of metaphysical theories of beauty and art. To the framers of these theories the artists and the art-critics of their own country and age were undoubtedly stimulating influences, and this for the very good reason that the latter were themselves more or less possessed (this is true even of Lessing) with philosophic conceptions, and so cast the special art-problems which interested them into a philosophic or semi-philosophic form.

The long account of the rise of German art-criticism, beginning with a faithful reproduction of the imbecilities of Gottsched, may interest one who has never looked into a *Literaturgeschichte.* It must be confessed, however, that the details of the story hardly find their place in a general history of Æsthetics. Lessing has, of course, his proper place here, but to treat Winckelmann and Lessing as of co-ordinate importance is surely to overlook the reasons which give to Lessing his place. Much the same must be said of a subsequent chapter devoted to Schiller and Goethe. Schiller did no doubt dabble in the Kantian philosophy, and tried to give to his rather hazy and sentimental speculations on art a philosophic form. Goethe, who has given us some luminous *aperçus* with a good many high-sounding commonplaces, was not even as much of a theorist as Schiller. The supposition that the writings of these two poets constitute a distinct movement in the history of æsthetic philosophy requires a better justification than Mr. Bosanquet's account supplies.

As might be expected from what Mr. Bosanquet lets us see of his own standpoint, he is on congenial ground when dealing with the German philosophers. The æsthetic theory of Kant is taken to task for stopping short where it did, in the way which the new Anglo-German philosophic criticism has made familiar to us. Schelling is severely reprimanded for his philosophic wildnesses. Schelling probably had too much of the true artistic tempera-

ment, of which passionate imagination is the core, for our somewhat cold investigator into the *rationale* of beauty. Hegel's doctrine is given reverently with almost a complete arrest of the current of critical comment. His "treatment of the Ideal is (we are told) the greatest single step that has ever been made in æsthetics". With this chapter may be taken a later one which seeks to give an account of "the methodical completion of objective idealism" by a series of writers from Lotze to Hartmann. Here English readers are permitted to study one of the most curious branches of German speculation.

To be suddenly hurled from these speculative altitudes to consider such comparatively homely questions as those propounded by Fechner in his *Vorschule der Æsthetik* may well give the reader a shock. Mr. Bosanquet rather funnily groups together Schopenhauer, Herbart, and his disciple Zimmermann, Fechner, and Professor Stumpf, under the head of "Exact" Æsthetics in Germany. By exact æsthetics he seems to understand determination according to scientific methods of the elementary forms of the beautiful. On what grounds Schopenhauer is included here the writer hardly makes an attempt to explain. Anything more disparate than the metaphysical speculation of Schopenhauer and the psychological and psychophysical researches of Herbart and Fechner it would be difficult to imagine. The inclusion of the name of the rehabilitator of the Platonic ideas may perhaps help to save the chapter from the charge of giving too much importance to empirical science in a domain in which philosophy has achieved its most daring exploits; but I am unable to think of any other justification.

Mr. Bosanquet does not appear to be altogether at his ease in the psychology of art. He does not indeed make it apparent why he attaches importance to any of the characteristic lines of recent scientific æsthetics, and it seems to me that it would have been better if this chapter had been omitted. It fails in an almost ridiculous way to give any idea of the scope of these inquiries. Fechner's researches, for example, as his nomenclature sufficiently indicates, are psychological, that is to say, they aim at explaining the several contributing elements in the *enjoyment* of art. And what can be said of a historian who puts Prof. Stumpf prominently forward as a writer on the æsthetics of music, and makes no mention of what is probably the one complete treatise on the subject, *The Power of Sound*, by the late Edmund Gurney? There is a contemptuous reference to Herbert Spencer's theory of musical emotion, but none to that of Darwin. Helmholtz as a German presumably exact is of course extolled, but it is a pity that Mr. Bosanquet is not clearer as to the nature and result of Helmholtz's researches. He appears to think that they go to support the idea of Leibnitz and Schopenhauer that the perception of music is a sub-conscious process of counting, or grasp of numerical relations, whereas of course the

whole drift of Helmholtz's theory of melody and of harmony is to show that this is not the case.

Mr. Bosanquet's dislike of things English has one notable exception. He places Mr. Ruskin and Mr. W. Morris among the great writers on æsthetics. He has for the former, apparently, hardly less of reverent admiration than for Hegel, of whom indeed he seems to regard the English writer as a kind of supplement. What he says about this writer is interesting but raises difficulties. Mr. Ruskin's well-known theory of natural beauty illustrates no doubt Mr. Bosanquet's conception of æsthetic significance. But does it not illustrate it by making the significance essentially moral? There are those who think that the whole tendency of Mr. Ruskin's writings is to confuse the ethical and the æsthetic to an even greater extent than Plato in the doctrine against which Mr. Bosanquet has so vigorously protested. And in any case, Mr. Ruskin's enthusiastically moral, or perhaps one should say, religious way of contemplating beauty, falls a little awkwardly into the procession of the theories, and does not seem to be intimately related to the Hegelian view. One will be curious to see whether the German "Æsthetiker" will accept Mr. Bosanquet's account of the relation of the two.

With respect to the writer's own view of the nature of beauty, I regret to say that it remains, after a considerable effort to grasp it, somewhat indistinct. How a mere intelligible content or significance can in itself constitute what we call beauty without any reference to the value for us of the signification, whether this value be for our moral or for our æsthetic feeling, I cannot conceive, and Mr. Bosanquet's single assertion of an Englishman's independence of German influence in the inclusion of Ruskin's name seems to suggest that he too at moments feels the difficulty. I fail, too, to understand what is effected by trying to force the formal aspect of the æsthetic presentation under the significant. Every variety of harmonious combination has, no doubt, its value for imagination through its suggestiveness, but it is surely going too far to say that relations of proportion and the like owe their value to this circumstance. The tendency of the school to which Mr. Bosanquet belongs is apt to appear to those outside it just as one-sided in its own way as the abstract Greek formalism against which he contends. This is sufficiently illustrated in the complete inability of the theory to give any intelligible account of music. Hegel's own account of it is a curiosity, even in its *entourage* of curious speculation. Mr. Bosanquet is only able to improve matters by quoting the theory of Hanslick, as modified by Lotze, that music "embodies the general figures and dynamic element of occurrences". We commend this as a *rationale* of the source of musical value to the lovers of the art. I should like to add that Lotze, who was a genuine lover of music, never intended

to imply that the whole value of music resided in this circumstance. To Lotze the worth of things was vitally related to feeling, a circumstance which perhaps accounts for Mr. Bosanquet's complete omission of one of the most attractive names in German æsthetics. A similar limitation in the theory shows itself in relation to the æsthetic value of colour. With Ruskin and more recent English writers before him, Mr. Bosanquet cannot of course neglect the fact that mere colour has its beauty, but all that he says on this subject strikes me as strangely inadequate. When, for example, he speaks of red and green as complementary colours—just as if all or even the majority of the varieties of tint included under each of these terms were complementary to one another—and reproduces a rather hasty observation that red and green only pleases the child and the savage, the expert sees at once that Mr. Bosanquet is not at home in dealing with either the æsthetic or the scientific aspects of the phenomena of colour. The ethnological and, one may add, the zoological treatment of colour-selection, modest departments of inquiry which are, of course, never alluded to by Mr. Bosanquet, are probably destined to throw more light on the æsthetics of colour than all the philosophies have yet succeeded in throwing.

To sum up the impression which Mr. Bosanquet's book has left on my mind. It is a vigorous presentation of one philosophic theory of beauty, and it succeeds by dint of a good deal of forcing here and there in delineating up to a certain point the progress of æsthetic ideas as a gradual embodiment or realisation of that theory. But this is done to the sacrifice of its value as a complete, impartial history of æsthetics. It is not even complete as an exposition of German theory, and as an account of modern European ideas it is grotesquely incomplete. Nearly the whole of the luminous French writing on art is passed over in contempt, and what is most characteristic is English thought about the subject is either passed by altogether or slurred over with a fugitive allusion.

As I am bound to conclude that the book, able as it undoubtedly is, cannot be accepted as a history of æsthetics for Englishmen, I should like to say wherein I think it fails to meet the special wants of English readers. It has, I take it, been the predominant and characteristic way of English writers on æsthetics to think of beauty as no object of a merely intellectual apprehension, in which analysis can discover some fundamental principle, but as a rather vaguely defined group of forces which stir us to certain mixed, yet always pleasurable moods in which, just because our minds are thinking minds, intelligent apprehension plays its part, but in which the emotional always keeps the intellectual in abeyance. Our characteristic line of inquiry, from Hume to Darwin, has been to ask why art affects us in certain ways. A notable development of this English æsthetic inquiry was the

associational doctrine of Alison, who is not once mentioned by Mr. Bosanquet, though he may be said to have had as much to do as anybody in determining some of the directions of "Exact" Æsthetical inquiry in Germany. The enlargement of psychology by the application of the evolution hypothesis has enabled us to carry the inquiry further, and to refer the hitherto inexplicable effects of colours and of tones to transmitted association. In this way, as Darwin and Gurney have so ably shown in the case of music, we have come to understand why certain imaginative and emotive effects are produced in us, while at the same time, *ex hypothesi*, we are for ever precluded from referring these effects to definable constituents in the æsthetic presentation. Of this modest circumscribed way of dealing with æsthetic experience Mr. Bosanquet tells his readers nothing. So closely indeed does he keep to his fundamental position, that æsthetics has to do with discovering and defining a certain variety of intellectual, one is tempted to say, logical activity, that I cannot recall throughout the book a single use of the word emotion. Since the psychological treatment of art has in this country commonly fallen under the head of emotion, the omission sufficiently illustrates the writer's respect for this side of the subject.

In his steady refusal to consider art in its relation to what Englishmen at least in the main are agreed to regard as its end, pleasurable emotion, Mr. Bosanquet is not only unfair to the special philosophic services of his country, he gives a mutilated presentment of the field of æsthetic inquiry. What shall be thought, for example, of a writer who is bold enough not merely to follow the past evolution of the æsthetic consciousness but even to define the conditions of its future growth, wholly passing by what is perhaps the deepest, as it certainly is the most characteristic, feature of modern art, *viz.*, its humour? In this neglect of the emotive factor in æsthetic experience Mr. Bosanquet falls short of the comprehensive way of the best German historians and even of some of those whom he claims as objective idealists. Thus Von Hartmann not only recognises a class of *Gefühlsæsthetiker* (to which, as might be expected, however he is far from doing justice) but he shows that Kant himself on one of his sides finds his place in this category.

JAMES SULLY.

Beiträge zur Psychologie und Physiologie der Sinnesorgane. Gesammelt und herausgegeben von A. KÖNIG. Hamburg u. Leipzig, 1891. Pp. 388.

The eight essays comprising this volume have been collected and edited by Prof. König to mark the occasion of Helmholtz' seventieth birthday. No less than seven of them deal with

physiological or psychological optics: the remaining one with the relation of number to tone.

The more strictly anatomical and physiological articles need not detain us here. Prof. Javal (*L'ophthalmométrie clinique*) gives a short *résumé* of his recent work *Mémoires d' ophthalmométrie;* describing his modification of the instrument, the physiological results obtained with it and its clinical application. Prof. Matthiessen in a long and careful paper deals with recent advances in our knowledge of the optical structure of the vertebrate eye. Prof. Engelmann (*Ueber electrische Vorgänge im Auge bei reflektorischer und direkter Eregung der Gesichtsnerven*) gives an account of experiments carried out under his direction by Herr Grijus, which go to support the theory of van Genderen-Stort and himself, that monocular stimulation in the frog affects the condition of the eye which has been protected from light, against the objections raised by E. Fick. The investigation is a good instance of *per exclusionem* physiological work; and its results are confirmed by the anatomical relations which Ramón y Cajal has found to exist in the case of certain birds.

Observations upon memory for tone led Prof. von Kries to the consideration of the laws of memory for sense-impressions in general. In an article in the present volume (*Beiträge zur Lehre vom Augenmass*) he deals with the cognition (as distinct from the comparison) of space-magnitudes by the eye. His first series of experiments bore upon the question of the dependence of our estimation of the size of a seen object upon the nature of the object. The error conditioned by this dependence is not so great that it cannot be corrected. Another set of experiments was carried out, in order to decide whether the idea of linear magnitude is determined by simultaneous vision of the whole length (or of the two terminal points) or by movement of the eyes. The former proved to be by far the more important factor in the result, but a considerable degree of accuracy can be attained by means of eye-movement alone. As regards the investigation of the latter, it must be remarked,—indeed, the author himself calls attention to the point,—that the tendency towards a memorial representation of the whole length is exceedingly strong: even where the eyes follow the moving mark, the starting-point may be memorially localised. Thirdly, there came up for solution the problem, how far the estimation of magnitude, which the previous experiments had measured, depends upon the visual angle, and how far upon the distance of the seen object. The writer found that a direct cognition of the visual angle is, with certain definite exceptions, as good as non-existent in consciousness. Even the comparison of visual angles, given in immediate succession, is difficult. He contrasts this very noteworthy case of fusion in psychological optics with the conditions obtaining for the other senses, and especially for that of hearing. The whole discussion is interesting and suggestive: finality is not claimed for it.

Prof. Uhthoff gives an account of the visual education of a seven years old boy, born so far blind that he could only distinguish light and dark, on whom he has successfully operated. The paper is divided into thirteen sections, each dealing with some special feature of the case; so that a comparison with the results of previous observers is facilitated. A large part of the protocol deals, of course, with the formation and retention of associations of visual ideas to spoken words. In the chapter on cognition of colour the author seems to have confused this process with that of sense-discrimination itself. An interesting comparison is instituted between the patient, whose mind was, apart from his blindness, very undeveloped, and a normal child of eighteen months, as regards cognition of objects and colours. That the boy had no idea of the plastic, even in terms of the sense of touch, is accredited by Prof. Uhthoff to his defective home-education: but it would rather seem to be an extreme instance of what is a general characteristic of the blind consciousness. Even when the patient is educated to the pitch of naming the form of objects according to touch, his ideas do not in any sense correspond to those of seeing persons. It is to be regretted that direct experiments were not made to determine the part played by hearing in aiding orientation in space. In unknown localities it is said that the boy relied exclusively upon his sense of touch; but the conditions do not seem to have been such that the assistance of hearing could have been called in.

There are many observations recorded in the course of the paper, which will be of great use to the psychologist. It is impossible here even to note them. Unfortunately, the patient's mental unripeness precluded the execution of a number of valuable experiments. The author is of opinion, from results gained in other cases, that the blind do not possess a finer touch-discrimination than normally endowed persons. This appears now to be pretty well established: indeed, a great deal of the touch-psychology of the blind is as mythical as the acuteness of vision ascribed to sailors. As regards dreams, another of Prof. Uhthoff's patients (twenty years old; blinded at two and a half) stated that she hardly ever saw in them; if she did, her optical images of persons were as dim and vague as the actual percepts. In general, she heard only the voice.

Prof. Lipps' "Æsthetische Faktoren der Raumanschauung" deals with optical illusions. There are in the field two theories of the origin of such illusions. According to that of Wundt, a very large number of them are explicable from the sensations attending movements of the eye; according to that of Helmholtz, they are to be regarded as deceptions of judgment. Prof. Lipps takes up the latter position, which he formulates as follows. (1) If experience has compelled us in a great majority of cases to form a certain judgment about a space-form, which is presented to our perception, we are inclined to carry this judgment to

analogous cases, when its special determining reasons are absent. (2) If this latter result of an unconscious analogy-inference appears sufficiently convincing and immediate, we are unable to dissociate *it* from the content of our perceptions. "So that we do not only think that a square *is* higher than it is broad, but we believe that we *see* this difference."

The initial objection, that this terminology does not cover the psychological processes involved, may be passed over. Prof. Lipps goes on to define more particularly the principle which he invokes for the explanation of the illusions in question. Experience has taught us to see in every line the activity of some force, the direction of some movement; we regard it, so to speak, as living. Putting this force and movement into lines, we naturally put their results into the lines, and into combinations of lines also. Æsthetical consideration makes of the formal unity of lines, which compose a figure, a unity of fact or content. The figure represents, then, a unity of force or movement. The apprehension of this conditions the optical illusion in the special instance. The author passes under review the square and right-angled parallelogram; the influence of connecting (*zusammenfassend*) lines; simple curvilinear forms; free convergence and divergence; oblique lines; divergence from a point; angles made with the horizontal; the circle; continuous linear connexion (spiral forms); and common forms (the S and 8 illusions).

It would plainly be impossible, within the limits of the present notice, to follow Prof. Lipps from instance to instance in detail. What is undoubtedly right in his argument is, I think, the emphasis laid on the association-factor in our interpretation of optical perceptions. We can hardly see a simple geometrical figure without in some way interpreting it by association. But that this interpretation in every case follows the lines laid down by the author is more doubtful. It is for the simplest figures that the principle seems to fail. According to it, we over-estimate the height of a square, because we place in it the upwards-striving activity, the result of which is to narrow the figure: and we hit on just this activity, because it has the æsthetical advantage; it is the activity of positive achievement. Yet, if we see the square as a fallen block of stone, the illusion remains. Again: a vertically striated square appears lower than the same square in outline. According to Lipps, this is because we get from the series of vertical lines the idea of an inhibited upward force, a striving against a downward counter-force. In these two cases, an explanation from Wundt's standpoint is surely preferable. And in every case where we *can* point to physiological, *i.e.*, mechanical conditions, is it not a sound rule to emphasise these?

In many instances where we certainly do read a force or movement into a figure, this force would seem to be bound up with a material association, rather than resident in the lines of the figure as such. Thus Fig. 7 in the present paper suggests a

flying kite ; and the illusions of p. 246 wax or wane according as we think of the forms as outlines of elastic or of rigid bodies. In other words, as urged above, the force-association is only one of the many possible associations, by which we fill out and interpret the optical perception.

In other cases, the checking or furtherance of the movement of the eye along a line, conditioned by the terminal connexions of the line, appears to determine our estimation of its length (*cf.*, however, what the author writes, p. 285). A good instance is the arrow-head and feather illusion. Here, too, we need not think of a force inherent in the lines. It is we who tend to move, not they.

For Figs. 26 and 27 one might have recourse to the old principle that an unfilled space always appears shorter than a filled space. In these examples the illusion is also aided by association. Especially interesting are the explanations given of the over-estimation of small angles, and of the S and 8 illusions ; though the arguments in the latter case do not seem more convincing than analogy-arguments in general are.

The paper is valuable for its method as well as for its content. The only way to reduce the phenomena of optical illusion to order is to examine the examples separately, and with all possible variation ; and then to arrange them under different rubrics of explanation. But it is, perhaps, a justifiable criticism upon Prof. Lipps, to say that he has fallen into the opposite extreme to that which he blames in the case of Prof. Brentano. It is as dangerous to seek for one explanation of the whole number of phenomena, as it is to set up as many explanations as there are separate illusions. Still, "æsthetic" is a wide term : and the author has used it elastically.

The last article in the volume—"Ueber den Helligkeitswert der Spectralfarben bei verschiedener absoluter Intensität: nach gemeinsam mit R. Ritter ausgeführten Versuchen, von A. König" —presents no easy task to the critic. This is due partly to its general character, which is at once preliminary and technical : partly to prerequisitions ;—it presupposes a knowledge of the recent work of Hering and his school, and of the followers of Helmholtz. All that one can hope to do is to give a general notion of the results obtained in the course of the research, and of the conclusions drawn from these by the author.

The paper is divided up into sections. (1) *Introduction : historical.* Two points are to be noticed. (*a*) The Fraunhofer curve of the distribution of brightness in the spectrum, and the curve obtained by Vierordt, which gives the amount of white light that must be added to the various colours of the spectrum in order to bring about a just noticeable diminution of their saturation, are practically identical. This points to a connexion between the two sets of phenomena. (*b*) Purkinje's observation, that if, setting out from two differently coloured fields of equal

brightness, one alters the intensity of the objective stimulus equally in either direction, the intensity of sensation undergoes less change in the region of short waves than in that of long waves, was shown by Brodhun not to be valid in the same degree for all intensities. With increasing brightness of the compared colours the phenomenon decreases. The present work is a direct continuation of that of Brodhun ("Beiträge zur Farbenlehre," 1887). (2) *Apparatus.* The Helmholtz colour-mixer (a double spectroscope with two collimators) was employed, with modifications. (3) *Method of investigation.* The curve chosen is the curve of "equivalent slit-widths," or (reciprocally) the curve of "brightness-values". This curve seemed to the author to represent the most accurate method; though there are three defects in this latter. (*a*) The comparative calculations of the different illuminations of the slit admitted greater errors than those which are made in the estimation of equal brightness in different colours. But this affected the ends of the spectrum principally. (*b*) The apparatus employed did not allow in many cases of the production of the comparison-brightness over the whole spectrum. (*c*) The curve of equivalent slit-widths presents graphic disadvantages. This is met by its reduction to the curve of brightness-values. The determination of the brightness-value of the monochromatic field (comparison-brightness) is also not free from objection. (4) *Experimental results.* The results were obtained from two normal trichromatic reagents, and from two dichromates (green-blind and red-blind). (5) *General consideration of these results.* With alteration of intensity the curve of brightness-values alters its form. On the Young-Helmholtz theory of colour-sensation, the brightness of a spectral colour is a homogeneous linear function of the ground-sensations. The form of the curves of distribution of the ground-sensations in the spectrum differs with differing intensity. Whether this fact alone explains the variation of the curve of brightness-values is uncertain. On Hering's theory, the brightness of a spectral colour is the algebraic sum of the brightnesses of its white and coloured valences. The writer cannot find agreement between his results and Hering's view. (6) *The distribution of brightness-values in the spectrum at a high intensity.* (*a*) It was found that total or approximate identity of the colour-equations of two persons is in no sense a criterion of the similarity of their heterochromatic brightness-equations. (*b*) If the brightness-value of a colour is a homogeneous and linear function of the intensity of the ground-sensations, then in the case of two persons, for whom the spectral distribution of brightness-values is different, but whose colour-equations are the same, either the coefficients of this function or the spectral distribution of the ground-sensations must be different. These alternatives have not been tested; but experiments speak for the existence of the dependence originally assumed. (7) *The distribution of*

brightness-values in the spectrum at a very low intensity, and its relation to congenital monochromatic colour-systems. (*a*) On Hering's theory, total colour-blindness means the absence of the colour-valences of light. The curve of brightness-distribution in the spectrum will then be identical with the curve of white valences. This is the case. On Helmholtz' theory (as modified by Brodhun), the phenomenon implies that the decomposability of the three photochemical substances is for the three monochromatic colour-systems at mean intensity what it is for other colour-systems at very low intensity. (*b*) The curve of brightness-distribution at such an intensity is approximately the same for monochromatic, dichromatic and trichromatic systems. (8) *The lower limen of stimulus.* The character of the colour-system has no influence in this connexion. (9) *Determination of the brightness-values in a spectrum with uniform distribution of energy.* A tentative construction of the curve of energy-brightness-values, on the basis of Langley's experiments. (10) *Partial colour-blindness, and its explanation by the theory of antagonistic colours.* A criticism of Hering's explanation of individual differences by the absorption-relations of the media of the eye, and of the pigment of the *macula lutea.* (11) *Total colour-blindness, and its explanation by the theory of antagonistic colours.* Hering ascribes different brightnesses to the different ground-colours. Hence his explanation of total colour-blindness (see § 7 above). But the writer finds that, in some cases at least, the loss of the colour-sensation proper makes no difference in the brightness-values of different lights. (12) *Conclusion.* The investigation brings additional evidence to show (*a*) that, on the Young-Helmholtz theory, the form of the curve of the ground-sensations must vary with its brightness. The dependence has still to be determined. (*b*) It contains observations which are not to be reconciled with Hering's colour-theory.

Much obvious criticism is disarmed by the author's plea of tentativeness. The article has all the interest attaching to a discussion of the burning question in psychological optics. The general impression left on the reader by this or by other papers is, that much more remains to be investigated than has been investigated before a final settlement of the difficulty is possible.

There remains to be mentioned Prof. Preyer's contribution to the volume: "Ueber den Ursprung des Zahlbegriffs aus dem Tonsinn, und ueber das Wesen der Primzahlen". This, like Prof. König's paper, is of the nature of a preliminary communication: a full treatment of the subject is promised at a future date.

The ordinary view, that the series of positive whole numbers originally arose from the addition of one to one, is regarded as incorrect. Rather is it the fact, that the number-concepts follow from the hearing and comparing of tones; and that they are fixed in consciousness later by the aid of the senses of sight and touch. In the physical conditions of the organ of hearing is

given the possibility of an unconscious counting or estimating, so that the small whole numbers would be names for the most satisfying "feelings of tone-interval". During the process of differentiation of its hearing-sphere, the baby hears tones, clangs (especially vowels), chords, scales, melodies (cradle-songs) and unharmonious sound-complexes; and these sensations are attended by the unconscious number-feelings. The zero-concept corresponds to the identity (not-difference) of sensations. The ground-tone could be designated by a stroke, /; the octave by //, expressing its agreement with and difference from the ground-tone; the fifth would receive the sign ///; the double octave ////. The child that hears the tones C *c g c̄*, in succession, has the number-feelings of 1, 2, 3, and 4. And so with the greater numbers.—The process of arithnogenesis is not described by the author in detail. As it stands, the theory recalls his parallelising of the scale of temperature—sensations with the colour series.

These considerations lead to a discussion of the nature of the prime numbers. Prof. Preyer comes to the conclusion that the natural number-system must consist of seximembral periods. He gives a scheme of this system, which renders easily possible a determination of the genetic and formal properties of any number, and by the help of which he proceeds to solve various arithmetical problems.

E. B. Titchener.

VII.—NEW BOOKS.

Outlines of Psychology. By James Sully, M.A., LL.D., Grote Professor of the Philosophy of Mind and Logic at the University College, London; Author of *Illusions*, &c. New Edition, revised and largely rewritten. London: Longmans, Green, & Co., 1892. Pp. xx., 490.

Prof. Sully has considerably improved his well-known *Outlines* by revising it throughout with close reference to his more extended work on *The Human Mind*. He also omits in the present edition the pedagogical paragraphs, which, excellent as they were, can now be dispensed with; the author's *Teacher's Handbook of Psychology* offering the educationist a fuller treatment. We are glad moreover to see in the present volume the beginning of an attempt to assist the student unfamiliar with anatomical works by a few clear diagrams illustrative of the nervous apparatus and functions. He has also certain diagrams illustrating visual illusions. Professor Sully will, we think, do well to continue the experiment by furnishing similar aids in regard to the Senses and Sensation generally.

The author has acted judiciously in limiting the number of references to other works throughout the book; so that the separation is now well marked between the *Outlines* as a first book for psychological students, and the treatise entitled *The Human Mind* where the subject is elaborated with full regard to the demands of the more advanced reader.

The book, as now arranged, consists of five parts:—I. Introductory; II. General View of Mind; III. Intellection; IV. The Feelings; V. Conation or Volition; and one Supplementary Note—"Psychology and Philosophy of Mind: Mind and Body". The history of Psychology is duly subordinated, as is fitting in a manual for beginners. We notice also that the Abstract Sentiments are very cursorily touched upon. This is right in principle, as they cannot be adequately dealt with without transgressing the limits of Psychology proper, and Prof. Sully has evidently been at pains to keep the provinces distinct of empirical science and philosophy. The concluding chapter contains some reference to abnormal phenomena of mind, which is entirely wanting in the former editions; perhaps the author may hereafter see reason to extend the treatment of this somewhat neglected branch of Mental Science.

The book in its present shape forms a very handy volume, and will no doubt receive a cordial welcome from students and teachers.

The Ethical Philosophy of Samuel Clarke. By J. E. le Rossignol. Inaugural dissertation presented to the University of Leipzig for the degree of Doctor of Philosophy. Leipzig: G. Kreysing, 1892. Pp. iv., 97.

This is a welcome contribution to the history of Ethics in England. It begins with a lucid and generally accurate sketch of the progress of ethical thought from Bacon to Locke. This is followed by an account of Clarke's life, with special reference to the circumstances under which his various works were written and published. The influence of preceding and contemporary writers on his philosophical views is next discussed in

a careful and interesting way. He is rightly said to be in general agreement with Cudworth, Cumberland, and Locke in "his conception of the importance of Ethics, his attempt to reduce morals to an exact science, his method of investigation, and the results he announced". His debt to Plato and to the Stoics is well brought out.

The detailed exposition of Clarke's Ethical System occupies rather more than half the essay. It is very full, clear, and careful. The doctrines of the differences of things, the fitness of things, moral perception, moral obligation, and the chief good are treated in succession. Of course the main interest centres in the conception of "fitness of things". This *fitness* Mr. le Rossignol "ventures to define" as "a quality of things (persons and actions) in their relations to one another, which, when perceived or thought of as a possibility, necessarily commands our approval; and the absence of which necessarily commands our disapproval". The fault of this definition is that it distinguishes two things which Clarke apparently identifies—approval and perception of fitness. It appears, however, from the context that Mr. le Rossignol is aware of this objection, and that his tentative definition is meant rather to express what Clarke ought to have said than what he actually did say.

Clarke's admission of a utilitarian element into his doctrine side by side with his predominant intuitionism is clearly pointed out. Clarke accepted partially the utilitarian standard by making the "welfare of all men" an end fit in itself, and actions fit or unfit in reference to it; but he also attempted to show the direct fitness of particular actions.

The book closes with an interesting discussion of the influence of Clarke's ideas on later thinkers; especially on Wollaston and Price. We hope that the author will follow the line of study which he has undertaken, and that he will give us a general history of English Ethics.

Education from a National Standpoint. By Alfred Fouillée. Translated and edited by W. J. Greenstreet, M.A. Edward Arnold. Pp. xii., 332.

The author of *L'évolutionisme des idées-forces* here gives his views on the proper subjects and methods of secondary education. He chiefly has in view schemes and schools in France. But the book is of special interest to our readers, because of his employment of philosophical doctrines in sketching the aims and available forces of educational discipline, and also because of the prominent place given to a philosophical curriculum in his recommendations.

The "National standpoint" distinguishes the book from current theories as to the best education for individuals considered as units, and also from discussions as to the best means of forwarding the development of humanity in the abstract. Fouillée takes as the goal of educational effort the preservation and improvement of a national intellect. He has, of course, the most impressive of all precedents to follow, Plato's. The book is brilliant as an exposition, suggestive and full of new sayings, quotations, and allusions. There are five main divisions, each having a distinguishable concern of its own: Education in its aspect as Psychological and Social Selection, Scientific Humanities, Classical Humanities, Modern Humanities, and Philosophical and Social Sciences. But the treatment is more remarkable for psychological insight than for logical plan, or even for explicitness in the matter of proofs.

The power of education over the intellectual and moral character is first discussed, and is interpreted as a process of selecting dominant ideas, analogous to Natural Selection in the organic world. Under the

title Social Selection comes the assignment of the classes of society to which the ideal education must be applied.

Primary education cannot be severed from a certain utilitarianism, because its object is the necessary; but secondary education should develop faculties and supply "highest truths and loftiest sentiments". Consequently the study of science as well as that of language, history, and literature should be "humanised". Science, however, cannot do for faculty and character what classical literature can, and this latter must remain the basis of secondary instruction. But science, literature, and history alike must be so learned as to interweave with ethical and philosophical ideas. And finally a specific curriculum in sociology, ethics, psychology and philosophy must round off the scheme. They will supply a point of common reference, an organising principle, a channel of intellectual sympathy, between the widely diverging and subdividing interests and studies of practical life. And to the teacher they are one of the professional qualifications.

We believe that M. Fouillée's advocacy of philosophical studies is as sound in its psychological reasons as it is forcible and felicitous in expression.

The Problem of Reality, being outline suggestions for a Philosophical Reconstruction. By E. Belfort Bax. London: Swan Sonnenschein & Co., 1892. Pp. 177.

The salient points of this book are its assertion of absolute idealism and its polemic against panlogism. The absolute idealism is stated as follows: "Turn the matter which way we will we cannot get away from the fact that all Reality is nothing but categorised Feeling, or, in other words, it is nothing but a Co-ordinated whole or system of modes or inflexions of Consciousness. But all consciousness is simply the determination of the Ego," which is "prior in nature" to its own determinations, and "therefore to Time and to that which arises out of Time, namely, Number". There is nothing in this which is not familiar. But Mr. Bax appears to us to effect his resolution of things into determinations of consciousness in altogether too cheap and easy a fashion. According to him "an unknown Reality that, by its very nature, cannot become a content of consciousness or be known, is a contradiction in terms". It is here assumed that being known is synonymous with being a content of consciousness. Now the principle involved, so far from being evidently true, is evidently false. It belongs to the nature of thought that it should refer to something which is not at the moment in the consciousness of the thinker. Thought qualifies its object by means of a part of the momentary content of consciousness. But this content, just because it is, as Mr. Bradley would say, adjectival to the object cognised, cannot itself be identical with this object. Mr. Bax may reply that every reality must be at least a potential content of "consciousness-in-general". We are not disposed to contest this position; we simply deny that being a potential content of "consciousness-in-general" can be legitimately identified with being a potential object of thought-in-general.

Mr. Bax is on the whole happy in his criticism of the panlogism, which attempts to explain away the material, contingent and "alogical" element in reality and to make thought or the concept-form absolute. In chap iv., on "Chance and Law," he argues with great force and clearness that "actual happening in space and time" involve an irreducible "Chance-element," a fatality in things which must be accepted and cannot be explained. Freedom of the will is referred to the contingent

or alogical element in human actions. The dialectic process which continually finds and reconciles contradictions is explained as due to the initial opposition and final reconciliation of Feeling and Thought. The logic of *pure* Thought is, according to Mr. Bax, ordinary formal logic.

Der echte und der Xenophontische Sokrates. Von Karl Joël. Erster Band. Berlin: R. Gaertner, 1893. Pp. 554.

It is an old problem which Herr Joël once more propounds in this scholarly treatise. We all assume that the Platonic Socrates was no living man, but an ideal: a monument of genius, an effort of the constructive imagination on the boldest scale. But can we trust the more homely, though still fascinating portrait which Xenophon has drawn? In its main outlines, certainly, answer the teachers of the present day, while admitting that there was much in the master that was far beyond his honest pupil's comprehension. Here Herr Joël joins issue.

An examination of the religious views of Socrates discloses a rationalist with a tendency to maintain the unity of God and to oppose popular superstition, replacing the outward forms of worship by a good conscience, and the consultation of the oracles by the direction of an unerring instinct (the *daimonion*). Whence it is inferred that the simple piety and superstition which finds expression in the Memorabilia is either Xenophon's own view or a compromise between himself and his master. Possibly the distorted picture presented by Xenophon is the object of attack in certain of Plato's dialogues: at all events the conception of Piety which we find in the Memorabilia is exactly that of Euthyphro in the dialogue called after him (14 B), the "commonplace" type of Republic 442 E. Similarly with the theory that Virtue is Knowledge: that Socrates meant this, paradox as it appears, is rigorously maintained, and in the sense intended in the traditional account preserved in the Peripatetic school (down to and including the author of the Magna Moralia). Following these guides we conclude that the historical Socrates did really overlook the irrational and impulsive element of the soul (p. 239); *i.e.*, he did not of course deny its existence, but in his philosophy he ignored it. This makes short work of many chapters in the Memorabilia, where Socrates' exhortations to virtue and self-control are almost as dogmatic as a modern sermon. Certainly the Socrates of the Charmides, Euthyphro, and Laches does not preach, and Xenophon (*e.g.*, in the Cyropædia) often does. Further, the historical Socrates was, we are forced to conclude, a pure dialectician, constantly inquiring: What is it? His influence, instead of being directly ethical, tended all to enlightenment, and to clear away the false conceit of knowledge. For the conception of Socrates as a preacher of morality, Antisthenes, it is shown, is quite as responsible as Xenophon, and traits of Antisthenes are discovered in Dio Chrysostom.

These results have been attained in the first of two volumes, of which the work is to consist. They apparently postulate unwavering consistency in Socrates, and a perfect correspondence between his life and theories. But the author himself requests that criticism may be deferred until the completion of the work

Le Monde Physique. Essai de Conception Expérimentale. Par Le Dr. Julien Pioger. Paris: Félix Alcan, 1892. Pp. 174.

The author clears the way for his theory of the constitution and origination of the Universe by exposing the fundamental errors of the

older Metaphysics. Shortly expressed, they amount to the assertion of an Absolute, whether absolute Subject or absolute Object. The belief that there is, and must be, a noumenon or "thing in itself" has been the main cause of the perplexities alike of the rational ontologists and of empirical scientists. The nature of knowledge, however, shows it to be illusory, cognition implying at once object perceived and subject perceiving. The student of physical science is no more free from the delusion than the *a priori* thinker, for so far he has been unable to shake himself free from the assumption that phenomena have individual and permanent substrata. Infinity and Substantiality are in fact—to speak in Baconian language—idols equally of the den and of the tribe. But, our author contends, the Infinite as a positive conception is inherently unthinkable. Thoughts and Knowledge being always of differences and of relatives, the term "infinite" cannot be applicable to object cognised; but signifies that to our knowing there is no assignable limit. So Substance is an inappropriate term if taken to mean the ultimate support of objects, for of such we know and can know nothing; to have significance it must be translated into *objectivity*, for this after all is what common-sense and speculative thought are strenuous in maintaining.

Dr. Pioger finds the misleading sense of Substance at the bottom of current ideas of the constitution of the material world. The atomic theory of the physicist and the chemist obtains its plausibility from the obstinate tendency of mankind to believe that there cannot be movement without a something moved, and that objects can exist *per se*. But these are assumptions, superfluous and unintelligible. All we perceive is movement, and movement is a relative term implying two consecutive appearances in varying space-relations. The author would substitute for the atom the "infinitesimal"; which is neither an ultimate corpuscle endowed with properties, nor a pure force-centre; but "the extreme reduction of the relations which constitute things; it does not correspond to a thing, simple and substantial, but it is the expression for the infinitesimal relation of that which we call—movement, extension, ponderability, under the general name materiality".

The ultimate relation is a couple which must be conceived dynamically. The analysis of the physical universe yields innumerable pairs of infinitesimals whose equilibrium forms a couple, or system of potential energy. The author refers to recent physics for a justification of his position from the point of view of science. As, further, the couples being equilibrated are in the relation of mutual dependence, they form a Unity or Whole, and accordingly we obtain the *raison d'être* of Individuality. The author's ultimate principles, then, are Determinism, Equilibration, Solidarisation. Determinism, inasmuch as universal dependence is not only exceptionless in experience, but is an essential condition of a Cosmos; Equilibration, as alone affording a sufficient cause for the genesis of the Universe. (Before equilibration the ultimate infinitesimals have conceivably all directions, the diametrically opposite among others; and when this last obtains we have of mathematical necessity the rotating or equilibrated couple.) But the last word is "solidarisation". The Universe of Things cannot properly be said to exist till there is individualisation, and Solidarisation expresses the fact that the ultimate couple is a unified whole. "So that Solidarity is *the necessary condition of all individualisation, of all that exists*, since we cannot conceive the possibility of anything absolutely simple 'in itself,' and the solidarisation of the components is the necessary condition of the formation as of the existence of everything composite, not only in the physical world, but still more in the organic realm of Life and Thought, as well as in the social organism and the moral world."

La Suggestion dans l'Art. Par PAUL SOURIAU, ancien élève de l'École normale supérieure, Professeur à la Faculté des Lettres de Lille. Paris: Félix Alcan, 1893. Pp. 348.

The first sixty-seven pages of this book are occupied with a discussion of Hypnosis in relation to Art. There is much, the author considers, in the æsthetic mood and attitude that reminds strongly of the hypnotic condition and induced ecstasy. All artistic influence is of the nature of fascination, and we seem never so ready to yield to its spell as when the critical faculty is in abeyance, and we surrender ourselves to the suggestion of the moment. Then time and space vanish, and we become one with the objects of our dreams, or the products of nature or art. The writer insists with great force on the necessity of utter abandonment for the enjoyment of æsthetic effects. The true æsthetic contemplation is of the nature of religious enthusiasm, to which all discussion and dissection are a profanation.

The author does not press the analogy between the phenomena of hypnotism and of artistic suggestion, although with great show of reason he considers the former not unimportant in bringing out the full force of the latter. The second part of his work, his main theme, is to be estimated quite independently of the very interesting introductory pages. It is divided into five chapters: Visual Suggestion, Auditive Suggestion, Suggestion of Images, Suggestion of Sentiments, and Changes of Personality.

Visual Suggestion is treated at considerable length. The author betrays an intimate acquaintance with the conditions of pictorial art, from the side both of the artist and of the beholder. He insists repeatedly that "to recognise exactly the appearance of things we must paint them as far as possible, not as we think we see them, but as we really perceive them". But M. Souriau does not consider that pictorial art has accomplished its end when it satisfies the requirements of the visual sense. "I will go further. I wish the artist to render for me not only the form of objects and their colour, but also all those accessory sensations which are characteristic of every object, the moisture of the flesh, the velvet of a fruit, the chillness of the stone, and the noises and perfumes. If he is satisfied with making me see things without making me feel them, this superficial imitation will be for me without interest. I shall not find again nature therein."

After dealing with æsthetically transformed perceptions the author investigates the artistic clothing of representative images. The force of verbal suggestion is aptly illustrated from the poets and great prose writers. Here, of course, Allegory and Metaphor come in for a share of study. Then the arts of persuasion are briefly touched upon. After which a return is made to Music, to indicate the sources of its power to influence the feelings. Then the function of the Drama is described, which leads up to the last topic—the mysterious changes of personality, which are illusory effects within the experience of the least imaginative. The romance-reader, the theatre-frequenter irresistibly lose the consciousness of their personality, but these are only typical cases of a universal tendency to identify ourselves with everything animate that engages our sympathy. And the novelist and the dramatist cause this metamorphosis in proportion to the extent to which they have themselves lost their individuality in the objects they depict.

The last pages are devoted to the subject of "Artistic Observation". The author remarks that it is sometimes said that Art is Play; if so, he adds, it is very serious play. He cites instances to show that the greatest works of art are produced with agony, under the incentive of a

haunting spirit that will not be laid to rest till the wish is achieved. The book is replete with fine psychological observations, and gives evidence that the author is a man of large culture.

L'Imagination et ses Variétés chez l'Enfant, Étude de psychologie expérimentale appliquée a l'éducation intellectuelle. Par P. Queyrat, Professeur de Philosophie au collége de Mauriac. Paris: F. Alcan, 1893. Pp. 157.

The author in the first 89 pp. describes the visual, audile, and motile types, with the usual kind of illustration. He then proceeds to consider the pedagogic application of the doctrine that different kinds of imagery predominate in different persons. He lays it down as a general principle that only visuals can have a special aptitude for such pursuits as the arts of painting, sculpture and architecture, or the natural sciences, or mathematics, that only audiles have special aptitude for music, spoken languages, versification, and that none but motiles have bodily dexterity. If we take into account power of attention and judgment, as well as the predominating character of mental imagery, in a child, we shall be able to determine the studies for which he is especially fit. But the undue preponderance of this or that kind of imagery is in many respects dangerous and disadvantageous. It should therefore be the aim of the educator to cultivate all three kinds. The main criticism we have to offer is that the practical postulates connecting different types of imagery with aptitudes for different pursuits require to be carefully sifted and examined instead of being taken for granted as they are by M. Queyrat.

Le Problème de la Mort, ses solutions imaginaires et la science positive. Par L. Bourdeau. Paris: F. Alcan, 1892. Pp. 354.

M. Bourdeau passes in review the doctrines of a future state found in religions and systems of philosophy. Such doctrines appear to him to be mischievous illusions which injure morality by leading it astray into false paths. His practical Conclusion is: "Let us know how to live, and let us not refuse to die. If we are friendly to death, it will be friendly to us."

Die Hauptgesetze des menschlichen Gefühlslebens. Eine Experimentelle und analytische Untersuchung über die Natur und das Auftreten der Gefühlszüstande nebst einem Beitrage zu deren Systematik. Von A. Lehmann, Dr. phil., Docent der Experimentellen Psychologie an der Universität Kopenhagen. Unter Mitwirkung des Verfassers übersetzt von F. Bendixen. Leipzig: O. R. Reisland, 1892. Pp. x., 356.

Full notice of this important book will appear in the April number of Mind. It is a work which no psychologist ought to neglect. The nature of feeling and of its psychical and physiological conditions and consequences are considered in pt. i., which contains an account of important experiments on the physiological concomitants of pleasant and painful experiences. In pt. ii. the "special laws of feeling" are investigated. The conception of this part of the work is to a large extent original and the results obtained are interesting and valuable. In pt. iii. a classification of the emotions is given, which seems to be a distinct advance on previous attempts of the kind. Mr. Lehmann may be congratulated on having produced a luminous and instructive work on an obscure and difficult subject.

Acht abhandlungen Herrn Professor Dr. Karl Ludwig Michelet zum Geburtstag als Festgruss dargereicht von Mitgliedern der Philosophischen Gesellschaft zu Berlin. Leipzig: C. E. M. Pfeffer, 1892. Pp. 102. 90

The essays contained in this collection are as follows: "Realismus und Idealismus in der Kunst," by A. Lasson; "Die Musikwissenschaft und die Hegelsche Philosophie," by G. Engel: "Uber das höchste Gut," by F. Kirchner; "Wie steht es jetzt mit Philosophie und was haben wir von ihr zu hoffen," by W. Paszkowski; "Hegel und Franz von Baader," by M. Runze; "Was heisst Denken," by G. Ulrich; "De legis apud Paulum apostulum notione," by F. Zelle. Besides this a letter is published, written to Michelet in 1837 by Count Cieszkowski, and a full and careful bibliography of Michelet's works done by F. Ascherson brings the pamphlet to a close. Of the essays, that by A. Lasson is the most interesting. But the general impression they produce on us is that latter-day Hegelianism in Berlin is in a somewhat feeble condition.

Die Grundebegriffe der Gegenwart. Historisch und kritisch entwickelt. Von Rudolf Eucken, Professor an der Universität Jena. Zweite, völlig umgearbeitete Auflage. Leipzig: Verlag von Veit & Comp., 1893. Pp. vi., 317.

This is a thoroughly new edition, save as regards the general spirit. of a work that appeared fifteen years ago. It is an impartial but unquestionably earnest examination of the prevailing tendencies with regard to the great speculative and practical problems. Its *note* is idealistic, but not subjectivist; indeed the author considers that one of the most dangerous signs of the times is the disposition to make light of objective truth, and to be content with the vividness and glow of private opinion. Even a writer like Lotze, with all his loftiness of tone and endeavour after intellectual comprehensiveness, is pronounced a dubious guide, as measuring the world's value by its capacity to enrich the life of individual feeling. But Feeling, however refined and exalted, the professor urges, will never satisfy the craving of the whole nature. That the world must be taken up into self is undoubted; it is a cold external thing unless it can in some way have a value for immediate consciousness; but the question is whether this Self, with its cravings for satisfaction, even intellectual, be the pivot on which Reality is presumed to revolve, or the spiritual life be regarded as an essential part of Universal Life. The first section, entitled "Subjective—Objective," is full of apt distinctions, and reveals unusual power of steering between Scylla and Charybdis. "In the last result we come to this, that a detached and self-directed subjectivity, even with the utmost refinement of conception, affords our life neither a firmer foundation nor a sufficient content. Still less is this obtainable from mere objectivity."

The author subjects the notion of Development to close examination, and answers three propounded questions: "(1.) Is there not in the idea of Evolution much obscurity and confusion? (2.) Has not the extension of the evolution-idea limits? (3.) What internal expansion does the evolution-idea require?" The present notice does not allow of an intelligible abridgment of Prof. Eucken's replies to these weighty questions. It must suffice to say that while he fully appreciates the importance of the idea of Evolution so far as life in time is concerned, he thinks it a fatal error to extend it so as to cover universal life. "To draw this life of the spirit itself into the evolution, in particular into

empirical evolution, is to surrender all worth and estimation, all inner necessity and independent impulse—in a word, this reason of existence." "The spiritual content of our life unfolds itself certainly in connexion with history, but it does not grow out of history."

Certain important practical questions are also treated. There is a chapter entitled "Individuality—Society—Socialism". In opposition to the tendency of the day to merge the individual in society, Prof. Eucken contends stoutly for the moral independence of the individual as essential to a genuine society. He would be just to both the aristocratic and the democratic tendency. The importance of the former as regards the æsthetic aspect of life is to him clear; it presupposes, however, stable and consolidated social conditions. The weakness of the existing democracies lies in the circumstance that they inconsistently assert an extreme pessimism in the economic sphere, and an extreme optimism in the ethical.

The book will be welcomed by all who stand aloof from parties and schools, and are not blind worshippers of the so-called Spirit of the Age.

Max Stirner und Friederich Nietsche, Erscheinungen des modernen Geistes und das Wesen des Menschen. Von Robert Schellwien. Leipzig: Verlag von C. E. M. Pfeffer, 1892. Pp. 117.

This pamphlet is a vigorous protest against the naturalism and atomistic individualism of the age. Max Stirner and F. Nietsche are selected for special examination because they exhibit this tendency in the most conspicuous and unrestricted way. Both proclaim the self-realisation of the individual to be the sole good and sole reality. Truth and right inasmuch as they impose restraint on the individual are regarded by them as mere chimeras. Now the author, while admitting that such views are absurd, maintains that they are the logical expression of the stream of tendency of our time. In Baconian language they are *Instances Freed and Predominant* of the general drift of thought. A most important manifestation of this prevailing tendency is the pretension of natural science to afford an ultimate and adequate account of reality. Nearly two-thirds of Mr. Schellwien's work is occupied by a trenchant criticism of the common naturalistic assumptions. The arguments which he urges are in the main Hegelian, and the mode in which they are treated reminds us of Green and Caird. It is shown that knowledge and the pursuit of moral ideals are impossible to an individual who is merely an individual. They are possible only through the self-realisation in the individual of the one identical creative activity in and through which all things are. Unlike the English Neo-Hegelians, Mr. Schellwien habitually names this absolute activity *will* not *thought*. But, so far as the present book is concerned, this difference does not appear to be much more than verbal.

Il Vero. Vol. v. of the *Opere Filosofiche* di Roberto Ardigo. Padova: Angeli Draghi, 1891. Pp. 520.

Starting from an old controversy, which he reprints *in toto*, with Prof. Ferri, as to the purpose and future of metaphysics, Signor Ardigo proceeds to expound the nature of truth (il Vero) as he understands it, and to confute the more ordinary views, as, *e.g.*, that truth consists in correspondence to facts. We have, he holds, immediate evidence in observation of the *reality* of external objects—light, heat, &c.—and similarly immediate evidence of the *truth* of states of consciousness. As states of consciousness are primarily 'sensations,' and in their final

analysis 'elementary sensations'—corresponding to physical 'atoms'—truth is identical with sensations, and ultimately with 'elementary sensations'. States of consciousness have existence *per se*, therefore the old philosophers were so far right in postulating an existence *per se* for truth, the corrective supplied by modern science consisting not in the denial of existence *per se*, but in making it 'phenomenal' only. The inquiry into *truth* becomes thus an inquiry into consciousness, and into the association of sensations and of ideas, or reproduced sensations. In common with other anti-metaphysicians, Signor Ardigo feels no difficulty in combining this reduction of all consciousness to sensations with a materialistic view of sensations as depending wholly upon the organism, thus making the external world more real than the sensations through which alone we know it, and into which we must resolve it. It is needless to add that the work is not convincing, though, as a study of a point of view, it has its interest.

Monismo e Dinamismo nella Filosofia, per Giacinto Fontana. Milano: Fratelli Duncolan, 1892. Pp. 246.

This work is pervaded by the idea that it is of prime importance to maintain Metaphysics as an independent doctrine, apart that is from a *résumé* of the broadest generalisations of the Sciences, or an account of the last results of psychological reflexion. Positivism proper, as refusing to grapple with the conditions of Existence and Thought, is peremptorily ruled out of court; but every theory that admits the necessity for a Science of First Principles is allowed a hearing.

Throughout the history of philosophy there has been a constant oscillation in speculation in regard to the ultimate essence of Reality. The author's argument takes the form of an examination of the various phases of Monism and Pluralism exhibited in Ancient Greece, the Middle Ages, the Modern Period from Descartes and Spinoza to our own day. The sketch of important theories contained in the first two chapters (from the Eleatics to Leibnitz inclusive), although summary, is drawn with care and judgment. In regard to our English thinkers Signor Fontana quotes at some length from the criticism of Associationism undertaken some years ago by Luigi Ferri; and he shows himself also quite familiar with our most prominent writers. He is not much in sympathy with our insular productions, however, noting in them, with rare exceptions, a clear bias to phenomenism. Of our latest home thinker, styled oddly to English ears "the Philosopher of Derby," he writes that in his Evolutionism "the two qualitatively different and distinct processes, internal and external facts, are confounded; psychical energy is unified with sensible force: he gives us a succession of facts, and does not at all expound to us their synthesis or rather unification in the unique and indivisible fact of consciousness". Comparing Spencer's classification of the Sciences with Comte's, he allows that the former has indeed the advantage in putting in a claim for psychology, but "this is rather biology and physiology; he has an Ethic, but only as theory of pleasure and pain of the sentiments and instincts derived from the sympathy which binds men in association and in beneficence, but there is no moral law, nor liberty, nor the truly ethical". Even where there is a spiritualistic bias, as with Vacherot, there is no foundation, it is alleged, for a true Metaphysic. Vacherot, following in the steps of Cousin, essays to found Metaphysic on Psychology, or rather transforms psychology into ontology. The sufficiency of Psychology, however, in any form to serve as the portal to Metaphysics is challenged by our author in the following terms:

"Psychology is the study of interior facts; now how can these furnish us objective principles of universal validity, how can they afford us knowledge of those supreme truths which constitute Metaphysics properly so called?"

The psychological method being rejected, the author reviews the presentations of the chief German exponents of Monism, and pays, as is natural, considerable attention to the attempted improvements of recent Italian thinkers. But whatever ingenuity may be displayed by the several defenders of Monism, the author concludes that they one and all fail to give an account of the multiplicity in unity of the manifestation of the cosmos, and to leave room for a genuine principle of Conation. He accordingly turns to Pluralism, and discovers a closer approximation to the Truth in Leibnitz, Herbart, Lotze, and Rosmini. He does not deny that there are formidable difficulties in Pluralism, but it alone in some shape can save pure Metaphysics from destruction, for Monism with its identification of the One and All has a fatal tendency to decline into Materialism or Positivism, whereas Pluralism can be both just to naturalistic science, and yet preserve in their ideal purity, which is also the ground of reality, the inexpugnable concepts of Substance and Cause.

Received also:—

J. H. Bernard, *Kant's Kritik of Judgment*, translated, with Introduction and Notes, Macmillan, 1892.

E. S. Haldane, *Hegel's Lectures on the History of Philosophy*, translated, vol. i., Kegan Paul, Trench, Trübner & Co., 1892, pp. xvii., 487.

B. C. Burt, *Hegel's Theory of Right, Duties and Religion*, Ann Arbor, the Inland Press, pp. 64.

T. Ziehen, *Introduction to Physiological Psychology*, translated by C. C. Van Liew & Otto Beyer, London, Swan Sonnenschein, 1892, pp. ix., 284.

M. Griveau, *Les Éléments du Beau*, Paris, F. Alcan, 1892, pp. xx., 582.

Ch. Bernad, *Platon, sa Philosophie; Précédée d'un Aperçu de Sa Vie et de ses Écrits*, Paris, F. Alcan, 1892, pp. viii., 546.

G. Lyon, *La Philosophie de Hobbes*, Paris, F. Alcan, 1893, pp. 220.

G. Tarde, *Les Transformations du Droit*, Paris, F. Alcan, 1892, pp. 212.

M. Aquilera, *L'Idée du Droit en Allemagne depuis Kant*, Paris, F. Alcan, pp. xvii., 346.

Ch. Féré, *La Pathologie des Émotions*, Paris, F. Alcan, 1892, pp. xii., 605.

G. Dwelshauwers, *Les Principes de l'Idealisme Scientifique*, Leipzig and Baden, C. Wild; Paris, G. Fischbacker, 1892, pp. 184.

H. Münsterberg, *Beiträge zur Experimentellen Psychologie*, Heft 4, Freiburg, J. C. B. Mohr, pp. 237.

G. Gerber, *Das Ich als Grundlage unserer Weltanschauung*, Berlin, H. Heyfelder, 1893, pp. 429.

A. Giesswein, *Die Hauptprobleme d. Sprachwissenschaft*, Freiburg, Herdersche Bud-handlung, 1892, pp. viii., 245.

F. Traub, *Die Sittliche Weltordnung*, Freiburg, J. C. B. Mohr, 1892, pp. 66.

F. Paulsen, *Einleitung in die Philosophie*, Berlin, W. Hertz, 1892, pp. xiii., 440.

VIII.—FOREIGN PERIODICALS.

The Philosophical Review.—Vol i., No. 5. D. J. Hill—Psychogenesis. [The Mind-stuff or metakinesis theory is upheld. The Argument is cogent enough. But the meaning of the result is, as usual, left utterly in the vague.] A. Seth. [A lucid exposition of the necessity of epistemological realism.] F. H. Nicols—The Origin of Pleasure and Pain. [Considers the question from the biological side.] F. C. S. Schiller—Reality and 'Idealism'. [An interesting and thoughtful criticism of Mr. Ritchie's 'What is Reality?' which appeared in the May number of the review.] Reviews of Books, &c. No. 6. J. Dewey—Green's Theory of the Moral Motive. [It is urged that according to Green's view "the moral life is by constitution a self-contradiction" inasmuch as it is made to consist in the pursuit of an ideal unity, which is "for ever unrealisable, because it for ever negates the special activities through which alone it might, after all, realise itself".] W. James—Thought before Language. [Contains a most valuable account by an educated deaf-mute of his ways of thinking and feeling before he had learned the use of conventional language. The development of his Ethical ideas is especially interesting. Much might be said on the bearing of the evidence here supplied on the relation of thought and language—a topic which is treated by Prof. James with provoking vagueness.] H. R. Marshall—Pleasure-Pain and Sensation. [A thoroughly searching and effective criticism of the theory that pleasures and pains may be regarded as special kinds of sensation co-ordinate with other kinds, such as the sensations of colour and sound. The papers on the subject by Mr. Nicols in immediately precedent numbers of the *Philosophical Review* are especially referred to.]

American Journal of Psychology.—Vol. iv., No. 4. H. H. Donaldson—The Extent of the Visual Area of the Cortex in Man, as deduced from the Study of Laura Bridgman's Brain. F. B. Dressler—Some Influences which affect the Rapidity of Voluntary Movements. J. R. Angell and A. H. Pierce—Experimental Research upon the Phenomena of Attention. [Important. "The essential question is whether we can interpret as simultaneous two or more disparate simultaneous sensations, and if not, how to explain our errors." Wundt's general method is followed with improved apparatus, by which the distracting noise of Wundt's clockwork is avoided, uniformity of motion in the rotating pointer is secured, and a momentary click is substituted for the relatively prolonged bell-tone. In explaining negative and positive errors stress is laid on the oscillation of Attention between the visual and auditory images. But the authors refuse to admit the legitimacy of any one simple principle of explanation, because of the great complexity of the conditions involved.] A. Kirschmann—Some Effects of Contrast. B. I. Gilman—Report on an Experimental Test of Musical Expressiveness. [A number of listeners were called on to write down, each independently, an account of the impressions produced and the ideas suggested by a selection of musical fragments. The results are highly interesting, and show remarkable agreement blended with remarkable diversity.]

The International Journal of Ethics—which has always been disposed to give a wide interpretation to the term "Ethics," regarded as defining a subject of discussion—opens with a long article on "The National Traits of the Germans as seen in their Religion," by Prof. Pfleiderer: and also contains a paper on "International Quarrels and their Settlement" by Dr. Leonard H. West, and a lecture by Mr. D. G. Ritchie on "1792 – Year I.". A more strictly ethical topic is the relations of "Philanthropy and Morality": under which title Father Huntington offers a vigorous, sweeping, semi-instructed diatribe against the operations of current philanthropy, which, in his view, are inevitably doomed to be laboriously futile and demoralising, so long as philanthropy will not "acknowledge the fundamental iniquity" of private property in land. The last article is a defence of "Utilitarianism" by Mr. A. L. Hodder. It is ably written throughout, and shows here and there some freshness in the treatment of trite topics: but the writer's standpoint is almost pure Benthamism, and his arguments are hardly likely to convince any one who has found Bentham unconvincing.

Journal of Morphology.—Vol. vi., Nos. 1 and 2. Howard Ayers—A contribution to the Morphology of the vertebrate Ear, with a reconsideration of its functions. [In the course of this elaborate monograph the author deals with the functions of the ampullar sense-organs and their connected canals. He arrives at the following conclusions. (1.) Different in degree of modification from the line of cochlear organs as these organs are, there is no reason to posit a different *kind* of function for them. (2.) Perfect equilibration is possible among the vertebrates without an internal ear. *Cf. Amphioxus*, the *frog* (Boettcher), *carp* (Tomascewicz), and *shark* (Steiner). (3.) In low vertebrates, there are surface canals in all the three space-planes, and in planes oblique to these; and these canals are more affected by bodily movements, and more subject to external sensory impressions than the ear canals can be: so that the animals would not need the latter for the static sense. Yet just these animals have their ear canals best developed. (4.) The canals are vestiges. Their only function is the inherited one of mechanical protection of the sense-organs. (5.) Bodily equilibration is the product of the activities of the whole nervous system, acting over the whole periphery of the body. *Cf.* the nasal rays of *Condylura cristata*.]

Revue Philosophique.—17me Année, No. 8. Rosenbach—Etude critique sur le mysticisme moderne. [An attack, too indiscriminate and prejudiced to be effective, upon the "psychical" experiments and inquiries of the Society for Psychical Research, Prof. Ch. Richet and others.] Fouillée—Le Developpement de la Volonté. (Premier article.) [(I.) The primordial element in the will is "spontaneous appetition, whereby, a pleasure being given, the being reacts to retain it, and, a pain being given, to escape it". This is independent of the idea of the end, which comes only when opposition is met with, when consciousness becomes 'bilinear' and has to select among two or more possible directions. (II.) While the will considered in itself does not admit of classification, being the 'identical tendency' to the greatest well-being, to the conservation and expansion of life, its *impulsions* or reactions upon the environment may be classified according to the objects which excite them. We have—(1) Impulsions aroused by pure sensations, which constitute appetition proper; (2) Impulsions aroused by percepts with their associated memories—"This class of impulsions is the basis of all the instincts"; (3) Impulsions aroused by judgments and trains of reasoning, culminating in *ideas*, which are then the conscious reasons for

action. "The rational will is that which . . . conceives a series of causes and effects as at the same time a series of *means* to a certain *end*." *The theories* which explain the will (*a*) as the tendency of an image to realise itself, or (*b*) as determination by judgments and ideas, are both inadequate. "The will is not determination by any judgment; it is determination by a judgment which pronounces that the realisation of such an end depends *on our own causality*. It is not merely the tendency of any idea to its own realisation, it is *the tendency of the idea of personal activity to its own realisation*." Desire and volition are not to be absolutely opposed nor completely confounded Desire is of the end, volition is characterised by an extension of desire also to the means. (IV.) The 'moments' of volition are reflexion, deliberation, judgment of choice or decision. The two first are essential but may be reduced to a minimum. The judgment has always a practical side, is accompanied by movements, impulsions, and some emotion. The action of the judgment does not imply freedom from determinism. There is constant action and reaction between the judgment and the 'personal factors'. (V.) The general result of the analysis is that no single motive, and no combination of conscious motives, contains the explanation of the subsequent volition. The volition is the synthesis of all the psychical and physical elements, conscious, sub-conscious, and unconscious. Only a complete analysis of all the elements could answer the question whether or no there is residuum=free choice. The nature of this synthesis is inadequately represented by the notion of mechanism. The notion of determinism, on the contrary, is not inadequate, but requires an interpretation at once more complex and more elastic.] A. Naville — La beauté organique: Etude d'ànalyse esthétique. Travaux du Laboratoire de Psychologie Physiologique. [Observations and experiments made by MM. Binet and Henneguy upon the calculator J. Inaudi, supplemented for the purpose of comparison by notes (by MM. Binet et Philippe) upon several professional calculators. The most striking fact elicited about the calculator Inaudi is that he is an 'auditive' and not a 'visual' as is more usually the case. No. 9. J. M. Guardia—La Personalité dans les rêves. [A collection of notes on the part played in dreams by the several senses, and by movement, on the influence of the personality of the dreamer, of the social environments, &c. Revue Générale. M. Vernes—Histoire et Philosophie Religieuses. [An interesting survey of recent literature on the history of religious and Biblical criticisms.] No. 10. Dr. Brazier—Du trouble des Facultés musicales dans l'Aphasie. [(I.) Gives a brief survey of the progress made in the study of aphasia, in particular of speech affections; (II.) resumes briefly the somewhat scanty results as yet attained in the study of 'amusia,' or musical aphasia; (III.) analyses the elements in musical representation (part played by auditive, motor, and visual images respectively); (IV.) quotes cases in detail; (V.) concludes that it is not yet possible to decide if the centres for speech and for music coincide absolutely, in which case the nervous elements might remain efficient for the one order of representations even after losing their efficiency for the other, or if on the contrary the centres are distinct though contiguous. The following positive results are however warranted by the facts; that in musical as in lingual representation three orders of images may be distinguished (auditive, visual, motor); that, in respect of forms, we may distinguish *total*, or at any rate complex, and simple musical aphasia, while the latter may be again divided into receptive or centripetal (tone-deafness, tone-blindness) and transmissive, expressive or centrifugal (loss of motor-image and consequent inability to play or sing); and finally that amusia, though it may appear as a corollary of

(speech) aphasia, is also an independent species.] A. Fouillée—Le Developpement de la Volonté (fin) La Volonté Libre. [M. Fouillée concludes his study of volition with the well-worn theme of free-will. Starting with an analysis (I.) of the *idea* of freedom, he finds it, as held by the practical man, to imply not indeterminism but self-determination, that is determination or causation by the conscious, reflective self (not by the character which is only the "accumulation of necessities for the most part organic"), acting under the idea of freedom as an end. The genesis (II.) of this idea is in the consciousness or feeling of personal power arising from the real activity of desire, from the intellectual activity of deliberation, and from the personal force of resolution, combined with the impossibility of finding complete 'objective' causality for actions. It is this ignorance of objective causes which when unbalanced by knowledge of subjective power leads to the inadmissible notion of indeterminism. After criticising (III.) some other theories, those of James, Reouvier, and Lotze among them, M. Fouillée passes (IV.) to the consideration of the validity of the idea of freedom as he understands it, and of how far it is consistent with scientific determinism. He concludes that the more an individual acts under the idea of freedom, with its three elements, power, independence, and spontaneity, the more he attains to a 'relative' independence of 'objective' influences. Freedom is 'subjectivity' *par excellence.*] No. 11. Novembre. L. Marillier—La Psychologie de W. James. [The first part of an appreciative 'critical notice' of Prof. James' longer and shorter psychologies.] E. de Roberty—De l'unité de la science: les grandes synthèses du savoir. [An attempt to get rid in theory, and in the classification of the sciences, of the dualism between the 'self' and the 'not-self,' between mind and matter, by exhibiting the mentality or ideality of time and space, the two forms of existence.] Th. Ribot—Sur les diverses formes du caractère. [An interesting attempt at a new classification of individualities or characters, based not upon temperaments or predominating tone of feeling, but upon the "two fundamental manifestations" of psychical life, *feeling* (sentir) and action. (I.) The essential marks of character being unity and stability, a constant and continued mode of acting and re-acting, two classes of persons, the excessively plastic and the excessively changeable, "les amorphes et les instables," are at once excluded. (II.) The three main classes, based on the distinction between feeling and acting, are (1) the sensitive, (2) the active, (3) the apathetic. (III.) These three are in their turn subdivided — the sensitive class into (*a*) the diffident ('les humbles'), (*b*) the contemplative, (*c*) the emotional; the active class into the moderately active and the very active; the apathetic class into the purely apathetic and the apathetic-intellectual. (IV.) In addition to these simple types, complex or mixed types must be recognised, the sensitive-active, apathetic-active, apathetic-sensitive, and perhaps the temperate or equally balanced characters.] Variétés.—Congrés international de psychologie expérimentale de Londres, par L. Marillier. Sur un nouvel appareil destiné à l'étude experimentale des sensations kinesthétiques, par Pierre Janet. Analyses et Comptes Rendues, &c.

Zeitschrift für Psychologie und Physiologie der Sinnesorgane. — Bd. iv., Heft 1, 2. F. Schumann — Ueber die Schätzung kleiner Zeitgrössen. [(1.) *The psychological basis of the comparison of small time-magnitudes.* The mental content which determines our comparison of such time-magnitudes is made up of secondary impressions of expectation-strain (strain-sensations of muscular contraction or strain-feelings) and surprise. Our sensible discrimination is a function of the adaptation

of our sensory attention. (Experiments with syllables and lines pasted on a rotating drum. Discussion of the psycho-physics of attention.) (2.) *Survey of the results of earlier investigations.* Mach and Vierordt; the articles in the *Philosophische Studien;* Münsterberg; minor contributions (Exner, Buccola, Hall, Jastrow, Stevens, Nichols, F. Martius, Paneth). Considering that we are only just beginning to understand the "time-sense," and that the present article cannot be regarded as in any way final, the criticism contained in these paragraphs is too sweeping. (3.) *New experiments.* Methods of right and wrong cases and of reproduction. In the former case, the value of D has a great influence on the magnitude of the sens. disc. As regards the second, it is concluded that the mean error cannot be considered as a measure of the sens. disc. A final section discusses some experimental facts, which go to confirm the author's theory.] C. Stumpf—Zum Begriff der Lokalzeichen. [The author points out the fluctuations in Lotze's use of the term "local-sign".] R. Hilbert—Zur Kenntniss des successiven Kontrastes. [Not in every case is the after-image of a coloured stimulus complimentary to the stimulus-colour.] Litteraturbericht. [G. E. Müller on Waller's "The sense of effort; an objective study".]

Vierteljahrsschrift für Wissenschaftliche Philosophie.—Bd. xvi., Heft 4. R. Wlassak—Die statischen Functionen des Ohrlabyrinthes und ihre Beziehungen zu den Raumempfindungen. Erster Artikel. [The symmetrical innervation of antagonistic muscles on opposite sides of the body depends on the semicircular canals. The recent researches by Verworn, Ewald, Kreidl and Breuer are taken into account.] H. Cornelius—Ueber Verschmelzung und Analyse. Erster Artikel. [An important paper. It is maintained as against Stumpf that analysis of musical tones takes place through a series of successive acts of discrimination, and not in one simultaneous act. But the author agrees with Stumpf that the sensations exist in consciousness before they are distinguished. He insists however that in becoming distinguished they become altered *qua* sensations.] J. Zahlfleisch—Die Wichtigkeit der Reproductionsgefuhle für die Entwicklung und Bildung des Menschen. [According to the writer, when we reason in the form of an enthymeme the place of the suppressed premise is supplied by a *Reproductionsgefühl.* Using the term in this very wide application, he has no difficulty in showing that such feelings are of the greatest importance in every department of our mental life.] Anzeigen, &c.

Philosophische Monatshefte.—Bd. xxviii., Heft 9, 10. M. Offner—Ueber die Grundformen der Vorstellungsverbindung. [Makes out a good case against Münsterberg's mode of resolving successive into simultaneous association. The author himself makes successive association depend on the subliminal persistence of excitations.] Th. Lipps—Der Begriff der Verschmelzung in Stumpf's Tonpsychologie. [An excellent article. By a searching analysis it is shown that Stumpf's fusion really belongs to the region of unconscious mental facts. The meaning and the justification of the conception of unconscious mental process in general are well brought out. Other points also in the work of Stumpf are criticised.] F. Tönnies—Werke zur Philosophie der Geschichte und des socialen Lebens. [Notices J. S. Mackenzie's "Introduction to Social Philosophy," J. H. Ferguson's "Philosophy of Civilisation," J. W. A. Macdonald's "Humanism".] Bd. xxix., Heft 1, 2. K. Lasswitz—Die moderne Energetik in ihrer Bedeutung für die Erkenntnisskritik. [Discusses the specific form assumed by the categories of Substance, Causality and Reciprocity in the modern theory of energy. The conserva-

tion of energy is brought under the Substance category.] F. Staudinger—Die Sittlichie Frage eine sociale Frage. E. V. Hartmann—Religionsphilosophische Thesen. Recensionen, &c.[1]

Zeitschrift für Philosophie und Philosophische Kritik.—Bd. ci., Heft 1. Otto Liebmann—Psychologische Aphorismen. [Contains many interesting and suggestive remarks on leading psychological problems.] E. von Hartmann—Unterhalb und oberhalb von gut und böse. [The moral consciousness is the apprehension of the relation of the Supramoral or Divine to the Inframoral or Natural.] F. Jodl—Jahresbericht uber Erscheinungen der Anglo-Amerikanischer Litteratur.

Philosophisches Jahrbuch.—Bd. v., Heft 3. P. Schanz—Religion und Entwiekelungstheorie. [Religious belief is capable of development *a fide ad intellectum*. But the development must not be innovation. Nove, non nova. This article, which is, in part, historical, is likely to interest the philosophical student of theology.] J. Wolff—Lotze's Metaphysik. [The concluding portion of a careful and acute criticism from the standpoint of scholastic realism.] Cl. Baeumker—Die neueste Phase des Schopenhauerianismus. [A criticism of Feldegg's attempt to construct a Philosophy in which the Absolute is identified with Feeling.] P. A. Linsmeier, S.J.—Die speculativen Grundlagen der optischen Wellentheorie.

Rivista Italiana di Filosofia.—Anno vii., Vol. ii. Septembre e Ottobre. De Sarlo—Gli Esperimenti dell' Ipnotismo sulle alterazioni della coscienza. [Taking M. Binet's recent work, ' Les Altérations de la Personnalité,' as his text, il dottor De Sarlo accepts, without question, the facts given, but disputes the interpretation most generally in vogue with hypnotists. If the self were, as is supposed, the result of an aggregation or co-ordination of elements, a break in the co-ordination would destroy the self rather than yield two or several selves. Rather must we conceive a central unifying activity, and the co-ordination as its effect. The several selves or personalities will then figure as the different functions, manifestations, acts, of a single and identical *force*. The separation into different personalities, which remains the chief problem, may be explained on the analogy of the organic functions, which, though reflex and automatic, remain under the control of a central consciousness, and, though ordinarily unconscious, any one of them can become conscious by concentration upon it of the psychical energy (attention or apperception), because it is then embraced in a single act.] L. Ambrosi—Sulla natura dell' Inconscio. Alcune considerazioni storico-critiche. [Traces the notion of the ' unconscious ' from Leibnitz to the present day, and concludes that, while we cannot, with Schopenhauer, suppose an unconscious *will*, because the will is conditioned by consciousness, and the unconscious must be something quite ' outside ' consciousness, it is yet possible from the facts of consciousness to infer the existence of the unconscious as distinct from the material, as the psychical side of the physical world. As thus inferred, the *unconscious* is much more than the sub-conscious, it is an " individual, permanent, continuous, and unifying energy," the " necessary condition of consciousness," the " psychicum continuum," occasionally, and at intervals, illuminated by consciousness. With this conception, Prof. Ambrosi, in his turn, attempts an

[1] *Apropos* of the notice in the last No. of Mind, of Mr. A. Voigt's article, " Was ist Logik," we are requested by the author to state that he does *not* identify " Philosophical Logic " with Syllogistik.

explanation of 'double personalities'.] R. Bobba—Di alcuni Commentatori italiani di Platone. L. Marino—Materialismo e monismo. [The genesis of the intellectual and moral life and functions cannot be accounted for by materialism, but is, on the contrary, conceivable on the supposition of 'monistic and causal evolution'. Physical and psychical phenomena must be considered as alike manifestations of an eternal and indestructible cosmic energy, the difference being that the physical phenomenon is 'extrinsic' activity, and the psychical is 'interior' activity.] Novembre e Dic. F. Tocco—La Psicologia della suggestione. [A study of suggestion in connexion especially with hypnotism, taking as text the 'Psychologie der Suggestion von Dr. Hans Schmidkunz'. Prof. Tocco does not follow Dr. Schmidkunz in accepting as proven suggestion from a distance—without intervention of the senses—thought reading, animal magnetism, &c., nor in the metaphysical conclusions deduced, but maintains throughout a sober and critical standpoint. (I.) The several degrees or kinds of suggestion, whether objective, personal. real or verbal, have this as common and distinguishing characteristic, that the idea of a fact is insinuated into the mind and gains in force, *automatically*, until it changes into the actual fact. (II.) In hypnotism there are two factors, the psychical and the physiological. The first may be practically reduced to suggestion, but the second must not be overlooked. Hypnotic states have much in common with ordinary sleep, and somnambulism forms a connecting link. The abnormal phenomena are hyperexcitability of the motor nerves, hyperæsthesia of certain organs, increase of muscular power, hypermnesia or the faculty of recalling things utterly forgotten in normal state, and even these phenomena are met with in other than hypnotic states. (III., IV.) The best explanation of hypnotic phenomena is afforded by the principle that ideas tend to persist and to convert themselves into movements.] A. Nagz—Lo seloppiamento della personalità. [Another paper dealing with hypnotic problems.]

IX.—NOTES AND CORRESPONDENCE.

THE *INNERVATIONSEMPFINDUNG* IN WUNDT'S PSYCHOLOGY.

I HAVE had occasion, in notices of several recent books, to call attention to what seemed to be a misunderstanding of Wundt's present position as regards the "feeling of effort". It may not be amiss, therefore, to put together Wundt's most recent utterances on the point; since the question of the existence of the sensation of innervation proper, more or less fallen out of discussion in psychology, has lately been brought into prominence again on the neurological side.

In the *Phys. Psych.* (3te Aufl., 1887, i. 403) the sensation of movement is said to be probably the resultant of the fusion of three different factors: pressure-sensations (from the skin and subcutaneous parts), muscular (contraction) sensations and central innervation-sensations. Of these sensational components probably only two are in origin qualitatively distinguishable: the sensations of pressure and of contraction: while the sensations of innervation are nothing else than centrally excited sensations of movement—that is to say, the sensation of movement is made up of a fusion of skin-sensations and muscular-sensations with the reproductions of such fusions, previously experienced; the innervation-sensation is the reproduction of a fusion of pressure- and contraction-sensations.

On p. 406 the same position is represented in more detail. It is stated as probable that "the sensations of innervation stand to the muscular [contraction] sensations in the relation in which in other sense-departments the central excitations, aroused by memory-images, stand to the sensations which are caused by direct external stimulation affecting the whole of the special sensory apparatus". The only difference is this difference in the direction of stimulation: in the one case it is centripetal, in the other centrifugal.

It is in these passages that the nature of the "sensation of innervation" is discussed; and in their light must such phrases as "sensations which accompany the central act of volition" (i. 42) be interpreted. (*Cf.*, *e.g.*, 32, 33.)

Still more decisive is the statement in the essay, "Zur Lehre von den Gemüthsbewegungen" (*Phil. Studien*, 1891, vi. pp. 335 ff.). It is here given as Münsterberg's view (pp. 387, 388) that "the so-called sensations of innervation, which can be observed in cases where no actual movement takes place, are memory-images of sensations of movement previously experienced". Prof. Wundt writes: "This view of the sensations of innervation I regard as correct: I believe it to be the only one possible, in face of the recently published discussions of the subject. But it is a view which is by no means new. I have myself developed it at length in the third edition of my *Phys. Psych.* . . ."

Finally, in the *Vorlesungen über d. Menschen u. Thier-Leeb* (2te Aufl., 1892, p. 147) we find the sentence: "The sensations of muscular effort which are the invariable concomitants of acts of volition may be regarded as reproduced muscular [contraction] sensations . . . ". In this passage the expression "sensation of innervation" does not occur. It may, however, very well be retained for the memorial representations of the particular sensations or sensation-fusions in question, which have for consciousness such a peculiar value. That one should talk of a memory-image as a sensation is in accordance with Wundtian terminology in general.

I hope that before this array of evidence the sentences beginning "Bain, Wundt and others . . . " will gradually disappear.

E. B. Titchener.

To the Editor *of* Mind.

Dear Sir,—Mr. Ward, in his over-generous notice of my briefer Psychology in your October number, says something which calls for a word of correction from me, for it concerns others besides myself. Quoting my sentence that mediumistic phenomena "are a field which the *soi-disant* scientist usually refuses to explore," he names the Society for Psychical Research, and remarks that it must strike the impartial spectator as a little humorous that "these people" should not only have arrogated to themselves a title under which every psychological inquirer might be enrolled, but should "stigmatise as *soi-disant* scientists the great body of psychologists, who, in fact, think proper not to join their ranks". If there is anything humorous here, it would seem to be the ascription to all "these people" of an opinion which was foreign even to the mind of the solitary author of the sentence from which Mr. Ward so ingeniously distils it, for no mention of the "S. P. R." was made in my text. The point is, as Mr. Ward says, a trifle, but exactitude is meritorious; and I therefore beg to say that I have never heard one of "these people" brand any psychologist as a *soi-disant* scientist, or otherwise speak harshly of him for not joining the ranks of the society in question. The temper of the psychical researchers is, as a rule, more humble. As for myself (if I can remember what was in my mind when I wrote the sentence in point) the *soi-disant* scientists intended must have been such fine old crusted enemies of superstition as that eminent biologist who once said to me that if the facts of telepathy, &c., *were* true, the first duty which every honest man would owe to Science would be to deny them, and prevent them, if possible, from ever becoming known. I surely never dreamed, when I wrote the words "*soi-disant* scientist," of the numerous psychological inquirers who have not joined the "S. P. R."; and least of all of such a truly scientific psychologist as Mr. Ward himself.

I remain, very truly yours,

William James.

Florence, October 24, 1892.

I am sorry I have misunderstood Prof. James. That I did it without "ingenuity" a word or two will show. First I "named" the S. P. R., and it is true they are not named in the text. But they are mentioned in a note appended to the very sentence I quoted, and it is certain they occupy the field into which Prof. James hopes to draw his psychological readers. Next this is "the field which the *soi-disant* scientist usually refuses to explore". Here somebody is blamed for not doing something which it is assumed he ought to do. Who is it? Do physicians reproach philologists for ignoring the comma-bacillus? If *psychical* research is neglected, do we expect to find biologists called to task and not rather psychologists: and that when the censor is a psychologist writing about psychology? Lastly, if it was natural to suppose that psychologists were intended, was there much straining in taking "usually" to imply "the great body of psychologists," when it is notorious that the great body of psychologists are not, in fact, "psychical researchers"?

James Ward.

Cambridge, Dec. 11, 1892.

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PSYCHOLOGY AND PHILOSOPHY.

I.—NOTES ON REFORM IN LOGIC.

By Alfred Sidgwick.

Almost every one would admit that the technical terms of what is usually taught as Logic are to a great extent survivals from philosophies now very largely superseded. As exercises for the student's memory, and as affording material for examination questions, they may still have a value. To the thorough-going student of the history of philosophy they will probably always be interesting. But for any other purpose, except that of causing confusion and hindering progress in a subject which is difficult enough even without them, they have long been losing the value they formerly had. 'Logic' bristles with terms which have gradually sunk out of use, as argument has ceased to be a game with rules laid down by authority.

An attempt to make a complete list of these high and dry technicalities is here unnecessary, since in their case the best reform one can propose is to follow the practice of common-sense and drop them quietly out of remembrance.[1] In order to do this we need not know beforehand precisely which they are. We need only adopt the simple rule that the first question to be asked regarding any logical technicality is, What is its actual value in helping us to understand

[1] Except, of course, for those advanced students whose interest lies chiefly in the history of the subject.

the process of argument? At any rate, the terms proposed as worth preserving must show other credentials than the fact of having been handed down to us, before we can safely assume that there is any such value in them, for us whose philosophy is so different from that of the Middle Ages.

Still an instance or two may be useful as showing the kind of technicality for which it is hard to find any practical justification. Those who have ever had to teach elementary logic for examination will remember the stimulating effect produced on a class of beginners when the meaning of some sonorous and respectable word is explained to them,—some word like *syncategorematic, epicheirema, polysyllogism*, or the *Goclenian Sorites*. Such words are welcomed with (comparative) eagerness as something definite, something that can be learnt, and reproduced at the proper time on paper. The Goclenian Sorites seems to be an especial favourite, probably from the simplicity of the contrast between it and the Sorites which the books call ordinary. Of further examples the first that come to hand are: *relative* and *privative* terms; *exponible, copulative, remotive, exceptive, exclusive, indefinite, plurative, limitative, propositions; subcontrary* and *subaltern* opposition; and most of the machinery of the Syllogism, with its *Barbara, Celarent*, and the rest of the 'valid moods'.

But such technicalities are mentioned here only to be dismissed entirely from consideration. There remain also in Logic a good many technical terms of a different sort, possessing a value which is not merely historical; and it is these that appear to deserve reformation instead of burial. The suggestion I would make in regard to them is simple enough in idea, and perhaps we need not despair of it being made capable of application.

In the last two or three centuries a great change has begun to come over our philosophy, including that freer and less exact philosophy which is known as Common-Sense. The change is still in progress and is far from being accomplished, but its general tendency is plain to see. It consists especially in our gradual escape from a subtle form of mental slavery,—from the bondage of words. We are learning that words, after all, are only counters—instruments of expression—and that every distinction drawn by language is open to criticism in the light of our knowledge of facts. We are becoming accustomed to find that a distinction may be perfectly sharp in *idea*, while the actual classes distinguished shade off into one another and so do not fit either of the sharply-contrasted names.

The technical terms of Logic, like all other terms, imply distinctions drawn. If we name, for instance, kinds of term, or kinds of proposition, or kinds of argument, the process is plainly one of distinction. And the same where we divide arguments or propositions into their component parts, or separate the 'meaning' of terms into connotation and denotation. On some distinction or other, every descriptive term is based. And the reform here proposed is merely that of recognising the real (or actual) roughness of all the distinctions drawn in Logic, in spite of the sharpness with which they may appear to be drawn. Such recognition will have various effects, and the best way of understanding what is involved in it will be to trace out some of those effects in detail.

But first let us admit, regretfully or otherwise, the fact that any proposal for a wholesale alteration of logical terminology is unlikely to meet with general acceptance. The most one can reasonably hope to do is to drive the thin end of a wedge a little further in. Instead, therefore, of suggesting a set of new technical terms, or even new ways of *defining* the old ones, I here only try to express certain reflexions that may accompany our use of the old technicalities, in much the same way as our remembrance of the fact that the earth revolves may accompany our use of the word *sunset*. Let us keep the old technicalities, by all means, so long as we can anyhow render them harmless. This plan is rather more troublesome, perhaps, but will cause less offence to our conservative instincts.

To begin with the most central technicality of Logic: what is a *proposition*? This term is commonly made to do duty for two very different meanings. It is used indifferently for the assertion expressed in a sentence, and for the sentence in which the assertion is expressed.[1] The simplest remedy would consist in avoiding the word proposition altogether, and substituting for it one of the words *assertion* or *sentence*, whichever we happen to mean; but we may also attain the

[1] If the reader, by chance, finds it difficult to separate sentence from assertion, even in thought, that is the very thing I complain of, as one of the ill effects of Logic as commonly taught. Two suggestions may here be of special service to such a reader;—that the assertion is not necessarily something *revealed* by the sentence, but something *revealed or concealed* by it; and that the distinction between assertion and sentence is analogous to that between *nobility* and *rank*. No doubt there are people who cannot sever these latter things, even in thought. Yet the ideas are distinguishable, as soon as we learn that rank (external form) may either reveal nobility or conceal the absence of it.

same end by keeping the word proposition in use, and merely remembering its defects on the proper occasions.

It is not difficult to see how the confusion between assertion and sentence arises. The *ideal* proposition is an assertion, but the *actual* proposition is always a sentence, just as the ideal nobleman is noble, while the actual nobleman is a titled man. In the case of assertion and sentence, however, there is more excuse for the failure to distinguish, since we cannot conceive what any assertion is or means except by putting it into a sentence. And though a sentence without a meaning may easily be invented, this is practically never done.[1] Sentences, as we meet with them, are used for the purpose of conveying meanings, however imperfectly they may succeed in doing so. Hence, as soon as we distinguish kinds of assertion, and ask what actual assertions belong to each kind, we very naturally bring forward not assertions but sentences to illustrate our distinctions. Thus we give the *sentence* 'All men are mortal,' as an instance of the universal affirmative *assertion;* and by calling both the example and that which it exemplifies a *proposition* we hide from ourselves whatever risk there may be in the above proceeding.

The inevitable result is that 'Logic' gives us a classification of sentences in place of a classification of assertions. Partly through the labours of Aristotle and the Schoolmen, partly with the aid of more recent grammar, we are in possession of a fair amount of knowledge of the sentence-forms that meaning commonly takes. It is doubtless true, for instance, that when we say: 'All S are P,' we commonly mean to express the 'universal' affirmative meaning; these common forms were not invented by philosophers for amusement, but to a great extent arise from the general consent of practical men who desire to find the best means of expressing their thoughts. All this may be admitted to the fullest extent,—in fact, every writer knows that he must on the whole obey grammar and custom if he wishes his readers to understand him—and yet the opposite side of the truth should also not be forgotten.

For, no grammar—no reflexions on custom—can adequately represent so complex and shifting a set of phenomena as those of the expression of meanings. We may do full justice to 'general consent' and yet admit that language-

[1] The exceptions to this rule are reduced to complete unimportance if we reflect that a (so-called) 'meaningless' sentence produces no fallacy until a *wrong meaning* is put upon it.

forms are largely an accident of time and place, not to speak of those finer differences that depend upon the varying mental constitution of different people, or upon the degree of assertiveness with which the assertion happens to be made. The failure of 'Logic' to cope with such facts as these—facts not exceptional or unimportant, but of immense and direct practical weight in dealing with any assertion or argument—is so notorious that now-a-days to appeal to Logic in support of any opinion is almost enough to spoil our chance of persuading common-sense to accept it. "I will not admit that the whole is greater than the part, unless you tell me how you are going to use the admission." It is not, in the end, the words that make a meaning, but the uses to which we put them.

A sentence may thus not only carry different meanings to different people, but may represent to the same person different kinds of assertion indifferently. This will perhaps be disputed at first by those whose minds are full of the grammar-logic here attacked; but, if they wish to avoid begging the question, they will rather notice that the answer yes or no depends on the view we take as to the nature of *meaning*, while this again depends on whether we do or do not keep clear the distinction between assertion and sentence. So long as we think of a meaning as itself a sentence (or as something necessarily revealed by the sentence) instead of as the assertion revealed or concealed by the sentence, we are hardly ready to recognise its shifting character,—we tend to suppose the 'meaning' of a sentence to be something inherent in the sentence itself (like specific gravity in this or that kind of substance), not something dependent on the intention of the parties using it (like the force of a mathematical symbol). We thus become grammarians rather than logicians, and spend our energies on searching for 'the logical meaning' of the words, *some*, and *or*, and similar expressions which in practice have more than a single meaning.

Let us follow out a little further the results of remembering that assertion and sentence are not the same thing. Suppose, for instance, we try to make a classification of assertions,—if only for tacit use, along with the classification of sentences that the present logic so carefully provides. As soon as we recognise that it is not the words that make a meaning, but the use to which they are put, two important consequences follow; words, we must then recognise, get their meaning and character from the assertions they help to express, and assertions get their meaning and character from

the arguments into which they enter; or, more exactly, from the purpose they are made to serve in some argument; not necessarily the purpose for which 'most people' use them on most occasions, but that for which the assertor uses them at some particular time.

Kinds of assertion thus become, in effect, kinds of *use in argument*. And here, under whatever names[1] we choose for the kinds distinguished, the most important division is that between the assertion whose function is to state the general ground of the argument, and the assertion whose function is to state the particular application of that general truth. Each of these without its counterpart is ineffectual in argument and so devoid of 'meaning,' and so devoid of existence as an *assertion;* the major without a minor is 'empty,' the minor without a major is 'blind'. The former corresponds to the theory which helps to give a fact its meaning, the latter to the fact which helps to give a theory substance. Facts and theories (however inseparable from each other) are the whole material out of which arguments are woven. In order to justify a conclusion we must appeal to facts (*i.e.*, to supposed facts), but since, even where the facts are admitted, such an appeal may be irrelevant, something more than the bare fact is needed—namely, assurance of its relevance for the purpose. But what do we mean when we claim that a fact—say, the fact that smoke is rising from the haystack—is relevant to the proof of a conclusion —say, the conclusion that the haystack is on fire? We always mean that in other cases, *analogous* to the one before us, a similar fact has been known to justify a similar conclusion. We mean that the fact appealed to does not stand alone, is not entirely *sui generis*, but belongs to a class of facts whose causes and effects are known,—known sufficiently for the purpose of our assertion. In this way we refer to causal theory whenever we use a 'fact' for proof; and without such reference the fact would have no argumentative value. Similarly, in the absence of smoke perceived, —smoke taken as fact—our perception of the causal relation between smoke and fire is barren. Fact and theory, taken together, are effective; either by itself is null. A rule or principle that can never be applied in particular cases, and particular cases that are not cases of a general rule, are each equally incomplete,—at best are waiting for a future (a potential, not actual) meaning, purpose, and value. The

[1] *E.g.*, *major* and *minor premiss;* or *inferential* (or *conditional*, or *general*) and *categorical* (or *predicative*) assertion.

only use of any fact is to be connected with some generalisation; the only use of any generalisation is to be connected with particular facts.

If we were to define the two kinds, *inferential* and *categorical* assertion, as above, any 'proposition' may exemplify either kind, by being put to either use; but only during such use. What are commonly called 'singular propositions,' for instance, may be made to serve the purpose of major premisses with perfect ease. A sentence, that is to say, with a singular name (even a proper name) as its 'Subject,' may be used to make an assertion which is in its purpose purely inferential. Take the case, for instance, where the fact of reaching a certain station convinces us that we are near the end of a journey. The sentence 'Kentish Town is near the end of our journey' would, I suppose, be commonly classed as singular; and yet, in connexion with the minor premiss 'Here is Kentish Town' the *assertion* becomes inferential. It is a grammatical accident that we use the categorical form of sentence, instead of saying '*If* this is Kentish Town, then,' &c.

One result of our view is that a sentence, taken by itself, never declares its logical character except in a rough and provisional way. An assertion only declares its character because no such thing as an independent assertion exists, any more than an independent *term* (as contrasted with *word*). As soon as there is meaning at all, there is the polarisation of thought into major and minor premisses. Any given assertion—any understood sentence if it asserts, and is not merely truistic—may be regarded, at our choice, either as itself a conclusion, that is to say as the combination of a major and minor premiss, or as forming one of the premisses out of which a new conclusion follows. When regarded as itself a conclusion, its logical character is not yet declared; it may be put to either use in the future. It is only when and while it is itself a premiss that it has any logical character, in this sense, at all. It is thus only in 'promise and potency' that unattached inferential or categorical assertions can be said to exist. Their actuality begins with their mutual dependence.

Let us next ask what becomes of the division into affirmative and negative propositions. Every assertion, we must remember, may be regarded as giving either the answer 'yes' or the answer 'no' to a corresponding question; and it must also be remembered that any question admitting of such an answer is one of a pair of questions ('contradictories') such that if one be answered 'yes,' the other must

be answered 'no,' and *vice versâ*. Hence, no assertion is more affirmative or more negative than any other. This need not, of course, prevent one recognising to the full the practical difference between affirmative and denial in certain cases,—a difference in definiteness of assertion. But we cannot make exactly the use that is commonly made of the distinction.

As regards *universal* and *particular* propositions, this distinction becomes absorbed in that between the acceptance and the rejection of a proposed inferential. Apart from a system of sentence-forms, we do not want to know whether a proposition is 'universal' or 'particular' for any other purpose than that of knowing whether it has the energy to serve as a ground of inference when it meets with a relevant fact, or whether (being a mere denial of an opposite ground of inference) it remains neutral until it can be made more definite and assertive.

Terms are arrived at by analysis of assertions; we cannot think of terms as being taken separately and coupled together to form an assertion, though of course words are habitually thus coupled together to form a sentence. But the term is an abstraction from the assertion, and takes its whole character from the purpose it happens to serve in asserting. Major and minor premisses (or inferentials and predications) divide into terms differently; the former into *antecedent* and *consequent* (or *sign* and *signification*), related to each other so that, given A, C is asserted to follow,—or, as it may sometimes be conveniently regarded, A is asserted to *indicate* C; and the latter into *Subject* and *Predicate*, related to each other so that S is asserted to belong to the class P,—or, as it may otherwise be expressed, to have the attributes essential to that class.

Every term is thus either S, or A, or C, or P, in some assertion; and in each of the three latter usages it is *general*, or *predicative*, in character; while, when used as S, it is either *proper* or *quasi-proper*,—does not require definition, in order to serve its purpose. 'Reference-name' would be a convenient technicality for a word when used as the S term of a minor premiss. It does not matter whether such word denotes an individual, a class taken collectively, or a class taken individually. During the time that an assertion is a minor premiss, its S does not require definition in order to serve its purpose.

Next, let us try to see what occurs when a mind which is full of the notions above sketched out looks through an ordinary text-book of elementary logic. The chief result is

that short work is made of most of the puzzles that are wont to confuse the student and to lead him at times to shake the teacher's confidence with troublesome questions. I will select only a few of the best-known of these, in illustration.

(1) *Are abstract names general?* In order to be 'general,' a name must be descriptive,—else it has no connotation and therefore cannot be "correctly affirmed, *in the same sense*, of each of an indefinite number of things, real or imaginary". But a name becomes descriptive only by being used to describe—*i.e.*, used as P in a predication, or as A or C in an inferential. And, passing over the difficulty[1] (just here irrelevant) of distinguishing in practice between abstract and concrete names, it is plain that in whatever way 'abstract' names be defined they may be used for any one of these purposes, and also as S in a minor premiss. The assertion expressed in '*Familiarity breeds contempt*,' for instance, may be either major or minor premiss. Hence this question becomes a real question no longer; does not admit of a choice between 'yes' and 'no'. Abstract names, like all other names, *may* be general,—are general when they happen to be so, in fact.

(2) *Are proper names connotative?* If connotative means descriptive, then all 'proper' names, when used as P in a minor premiss—*e.g.*, in the instance given above 'Here is Kentish Town'—become connotative.[2] If, on the other hand, a proper name be *defined* as "given merely to distinguish an individual person or thing from others," and its application as being "independent of any special attributes that the individual may possess," then 'proper' names are defined as non-connotative; *i.e.*, we must find out first whether or no a given name is connotative, before we can say whether it is a 'proper' name.

(3) *Verbal and Real Propositions.* When we remember that all distinctions in Logic are abstract, we shall regard much that is commonly written about verbal and real propositions as illusory and confusing. The use of this particular distinction is mainly in connexion with the ques-

[1] The distinction between abstract and concrete names, when defined as that between the names of *attributes* and the names of *things*, is only a rough distinction until we are in a position to define 'thinghood' perfectly. By a perfect definition is here meant what I have elsewhere (*Distinction and the Criticism of Beliefs*) called an 'applicable' one; a definition such that by means of it we can decide on which side of the line any actual specimens presented to us should be placed.

[2] The connotation (so far as the purpose of the moment is concerned) being given by the major premiss.

tion as to the material truth of any given conclusion. Is either premiss 'merely verbal'? Then the conclusion is so too. Are both premisses 'real'? Then so is the conclusion.

A perfect (or applicable) definition of real and verbal propositions cannot be found; in practice, verbal propositions cannot be distinguished from real ones, except in a rough and provisional way. If we take some sentence like, 'Homer wrote the Iliad,' or, '7 and 5 are 12,' apart from all context, and affirm positively that it is 'verbal,' or on the other hand 'synthetic,' we forget that, whatever may be true of sentences, assertions get their character from their use. It is for the assertor to explain, when called upon, whether his assertion is intended as a mere postulate or not; in the absence of such explanation, it may be either postulate or doctrine,—though of course there is often a strong presumption in favour of one or the other. For instance, I find it difficult to imagine a case where the sentence, 'a triangle is a three-sided figure,' could be used to express a 'real' assertion, or where the sentence, 'Brutus killed Cæsar,' could be 'verbal'. But all that we are here concerned to notice is that no rule can be given for distinguishing, in doubtful cases, verbal from real assertions, unless or until we can get a declaration from the assertor himself. The same form of words—say, 'a straight line is the shortest distance between its extremities'—may be used either as a postulate of meaning or as a statement of fact.

(4) Next let us look at the doctrine of *Conversion*. Faulty Conversion, as every one admits, implies a mistake as to the meaning of a sentence. The fallacious reasoner assumes, for instance, that the sentence, 'All S are P,' *means* that 'All P are S'. It is plain therefore that rules of Conversion are rules for the correct interpretation of *sentences;* the 'legitimate converse' of an *assertion* is only the same assertion (where meaning and assertion are one) though differently expressed. But instead of stopping at this negative result it may be worth while to go a little further, and notice that when the machinery of *Barbara, Celarent*, &c., is discarded, the practical need for rules of conversion even of sentences almost disappears. All we require to remember is that in interpreting sentences it is generally unsafe to assume that the terms can simply change places in regard to the relation between them. A good many relations, of course, like *equality, cousinship, nearness*, &c., admit of simple conversion, but precisely those two relations—indication and predication—which rise into chief importance as soon as we distinguish the premisses on which a given

conclusion rests, do not admit of it. If the terms are simply transposed, the relations must be twisted round ('indicates' into 'is indicated by,' or 'is' into 'includes'); if the relation remains unaltered, both terms must be changed into their contradictories.[1] It should further be noticed that, under this view of the matter, the same rule serves whether the proposition answers 'yes' or 'no' to its question. For instance 'X indicates Z' converts into 'Non-Z indicates non-X,' and 'X does not indicate Z' converts into 'Non-Z does not indicate non-X'. (This latter pair are often more conveniently expressed as 'Some X are not Z,' and 'Some non-Z are X'.)

(5) *Predication* and *Existence.* This group of difficulties also becomes less important or puzzling when we keep assertion in view, rather than sentence. The question is sometimes raised whether, if we say that 'All S are P,' we imply that any S exist. Our answer would be that (whatever be meant by 'existence') though a given assertor might intend to imply it, he certainly need not do so. In the case of major premisses the conditional (or hypothetical) character of the assertion lies on the surface for all to see. Whatever implication of existence the assertor may intend is beside the purpose of that particular use of the assertion. In fact, Grammar often chooses the hypothetical form of sentence for a major premiss. But in the case of minor premisses the existence of S is so commonly implied that the question whether it is *necessarily* implied becomes much more plausible. However, the process of reducing opponents' assertions to absurdity plays a considerable part in argument, and for that purpose the real existence of S is often not implied, even in minor premisses. Wherever, in fact, our conclusion is that S does not exist (*e.g.*, 'miracles do not happen'), our minor premiss cannot imply an opinion of *our own* that S exists. There may also, perhaps, be other cases where the minor premiss is a 'verbal proposition'. No doubt Mill was right in saying that 'real' propositions—so far as they predicate—do imply the real existence of S. But he seems not to have been fully aware of the difficulty of saying offhand which propositions are real and which are verbal.

Again, the fact of an assertion being 'particular' does not

[1] There are perhaps many cases where Grammar would say that a term had no contradictory. In the case of 'proper names' it must be very seldom that Logic would not be content to abide by Grammar in this respect; but whenever we feel how convenient a negative name would be, which is not at present in use, we begin to rebel against Grammar.

seem to prevent its being verbal and so non-existential. We can therefore only agree with Dr. Venn's views to a limited extent. Particular assertions, being mere denials [1] of indication, can never be anything but minor premisses,[2] and are therefore on the whole more likely to imply existence; but there seems no reason *à priori* why the 'Some S' that are spoken of should not be conceived as merely 'Some so-called S,' with the tacit mental reservation that no rightly-called S exist. Dr. Keynes (*Formal Logic*, part ii. ch. viii. § 106) says that unless particular propositions are made to imply the existence of S, the doctrine that A and O, or E and I are contradictories no longer holds good. Here I cannot exactly follow him; for, of the two assertions (1) that some (so-called) X are not Y, and (2) that all (so-called) X are Y, one or the other must surely be false? Of course I admit that the assertions expressed in the sentence 'If anything is *really* X it is Y,' and 'Some (so-called) X are not Y,' fail to connect directly in opposition; they are, in fact, related as major and minor premiss, and give the conclusion 'Some (so-called) X are not *really* X'. But that conclusion, which looks self-contradictory when the 'so-called' is left tacit, is reached for the very purpose of showing that there is a contradiction between the premisses—that one premiss or the other must be false.

One further remark on this subject seems in point. 'Predications,' as contrasted with inferentials (*i.e.*, minor premisses as contrasted with majors), must always imply the existence of S, except where they are verbal; for to predicate anything whatever (except non-existence) of a subject is to predicate more than its mere existence. Existence (or non-existence) is the least definitely descriptive attribute that can be predicated, and is the foundation of all other predicates.

(6) *Syllogism* becomes a much less complicated operation when analysed into assertions instead of its sentences. 'Rules' then become almost superfluous, in practice. If, however, we wished to draw up a set of rules, they might take some such form as follows:—

1. Without a *valid*[3] conclusion, there is no Syllogism.
2. Every valid conclusion depends upon an assumed fact,

[1] See above, p. 151.

[2] This holds true in spite of the fact that particular *propositions* become 'major premisses' in three moods out of the nineteen recognised in the traditional Syllogism.

[3] *I.e.*, syllogistically valid,—not necessarily *true in fact*.

or group of facts (minor premiss), and an assumed ground of inference (major premiss).

3. The minor premiss is a predication, and, except in one case (see Rule 5), is a predication about the S of the conclusion.
4. The major premiss is an inferential, asserting (except in the one case just mentioned) that the P of the conclusion is indicated by the predicate of the minor premiss.
5. The case above referred to occurs where the A and C of the major premiss are themselves assertions. Here A, asserted categorically, becomes the minor premiss; and C the conclusion. [This is the old 'hypothetical' (or 'conditional' or 'disjunctive') Syllogism.]

(7) *Inductive Logic.* The confusion between assertion and sentence is apparently here of very little direct importance, so far at least as Inductive Logic may be truly called the logic of *facts*, rather than of assertions. But at any rate a similar confusion is apt to obscure our view, namely the confusion between a *fact* and a *truth*. The relation between truth and fact is precisely analogous to that between assertion and sentence. *Ideally*, fact is truth (*i.e.*, is undeniable), but every *actual* 'fact' has theory mingled with it; and theory cannot be contrasted with fact, in idea, unless it be regarded as essentially deniable. Hence, if inductive logic be taken as concerned with the proof of theories by means of fact, it seems at first to lie open to easy caricature, as aiming at the proof that something deniable is undeniable, by means of something else upon which that remarkable process has already been performed.

This, however, it may be urged, is merely a verbal difficulty, and may be met by judicious interpretation. What one really means, it may be said, is that inductive logic is concerned with the proof of the more deniable by means of the less deniable. And since, in any case, it is not 'truths,' but beliefs (or assertions) about truth, which are deniable, this means that inductive logic is concerned with the proof of disputed assertions by means of assertions which are less disputed, or not disputed at all. But then it does not appear what difference, after all, can be found between inductive and deductive logic.

Would not a more useful way be to conceive inductive logic, as concerned with the proof of major premisses (or 'inferentials')? Theories are only objects of interest in connexion with the facts they are supposed to explain; and

for a theory to explain any fact is to act the major premiss to its minor. Of course the material truth of a minor premiss (or 'fact') is also an object of interest, but such truth is only proved so far as the 'fact' can be explained,—*i.e.*, a major premiss found for it, itself acceptable as being materially true.

The manner in which an inferential is proved (*i.e.*, rendered acceptable to some mind), in practice, is by comparing conclusions deductively drawn from it, by the help of an accepted minor premiss, with some other accepted fact. By means of the contradictions so reached, we are enabled to revise and correct our inferentials from time to time; we learn how to state them with closer approximation to the truth. It is probably never the case that an inferential which is at all generally used is wholly without material truth; but they are extremely apt to be too broadly and vaguely conceived,—partly through an imperfect knowledge of facts, partly also through the mere influence of concise (and therefore vague) expression.

What can inductive logic do for us in improving our methods of testing the truth of an inferential? So wide a question cannot satisfactorily be answered within the limits of the present article, but there is room for one or two general remarks bearing upon it. It is much more easy to see what inductive logic can *not* do for us than what it can do. Its function, as here viewed, will in any case be (like that of deductive logic) negative and restrictive only; it will make us aware of the risks we run in accepting any given major premiss as true. And its method will be the analysis of notions which are commonly used in inference. For example, it may begin by analysing for us the notion of *essential* resemblance and difference, at least until we are finally purged from the belief that resemblance and difference can (except for the roughest purposes) be regarded as varying in *amount*, or *degree*. After the event, of course—after we have decided which details are important and which are unimportant—we can talk of greater and less resemblance, with the utmost wisdom; but our guide in all inductive inquiry, *before* we can regard it as finished, must be the notion that, until the contrary is proved, no detail however apparently trifling can be safely disregarded. In this respect perhaps the devotee of common-sense, or the beginner in philosophy or science, may hope to get some help from inductive logic. But to the specialist, the artist, and those who are practical in deed and not merely in name, all such analysis will probably give only stale information.

Of misleading influences still at work a chief source is the

very neglect to distinguish between the *ideal* and the *actual*, which we have already noticed in the case of assertion and sentence, truth and fact. It is this that leads us to draw up 'inductive canons' whose main practical effect—so far as we ever consciously use them—must be to hide from us all details of the real operation (namely, penetrating observation of fact, at once imaginative and critical) on which success depends. General rules for the interpretation of 'fact' inevitably suffer from this radical defect; they can only tell us how to perform the easiest part of the process, —the part which may be performed alike by minds that reach a true and a false conclusion. So far as we ever misinterpret facts, it is because we have proceeded on one of these general rules too hastily. Not that such rules need be *untrue*, or liable to exceptions—Mill's, for instance, were not—but that they profess to give advice, and yet such advice is only true so far as it is truistic. In order to apply them we must make certain assumptions; and the really important problem is always how to get a sufficient warrant for making those assumptions in the given case. Taken ideally, they are true; taken actually they are, *as general statements*, false and misleading. But perhaps it is needless to dwell further on this particular form of the error. Inductive canons have lately lost much of their authority.

Before this point is reached, it will perhaps have occurred to the reader that we have occasionally come very near the invention of new technicalities. Still, I think the worst of the charge may be avoided by keeping our minds open to receive any other expressions that may better serve to fit the thoughts. When we object to new technicalities, it is commonly not their mere novelty that is the chief cause of offence, but the fact that they do not happen to be just the novelties we ourselves should have chosen. That is one reason why I think it really better not to aim at present directly at the improvement of logical terminology, but rather at understanding the reasons why some reform or other is needed. The great thing is to fix our minds on the portions of truth that are apt to be hidden by the present received terminology. In doing so we must to some extent make use of new ways of expression. But these need never bind us more than we choose to be bound by them. For words are only instruments, and we shall get most out of them by keeping them free to change and improve. Words are freest when most tacit, and hence old technicalities used with tacit criticism may be as effective as the best new system that can be devised.

II.—THE NATURE AND AIMS OF PHILOSOPHY.[1]

By Prof. Henry Jones.

At the present moment, as philosophers would themselves acknowledge, there is no theory that either obtains or deserves unquestioning confidence. All attempts at re-presenting the unity of things have failed.

> "A mass, keeps flying off, fining away
> Ever into a multitude of points,
> And ends in isolation, each from each."

Unprejudiced observers—if ignorance, more or less complete, can ever be unprejudiced—who contrast the long catalogue of defeats sustained by the philosophers and the shattered condition of their ranks to-day, with the solid and advancing conquests of the natural sciences, have very naturally concluded that philosophy is seeking by a doubtful method an unattainable goal. Philosophy has fallen upon evil days, if not amongst evil men.

The sad picture which Hume drew of philosophy in his day, represents with much faithfulness its condition in our own. "Principles taken upon trust, consequences lamely deduced from them, want of coherence in the parts, and of evidence in the whole—these are everywhere to be met with in the systems of the most eminent philosophers, and seem to have drawn disgrace upon philosophy itself. Nor is there required such profound knowledge to discover the present imperfect condition of the sciences, but even the rabble without doors may judge from the noise and clamour, which they hear, that all goes not well within."

I concur with the rabble as to the noise and clamour, but I dissent from the conclusion it draws from them. In fact, I remember with some satisfaction that it is the rabble which infers from the noise and clamour that all goes not well within. The wise from the same premisses will draw the opposite conclusion. They know that there is the vigour of life in a philosophy which excites the clamour of disputants. It is the philosophy which has sunk into silence that is dead. All truth is vocal, and continues to clamour till it is purified from the discordant elements of error. Like virtue, and all *life*, spiritual and natural, truth

[1] An address delivered at St. Andrews in October, 1891.

is essentially combative in nature. It continues to strive till it lifts man to its own level and becomes his permanent and peaceful possession. The error of the rabble lies in expecting that this sphere of knowledge can ever be other than the arena of combatants. They forget that a philosophy which has become a tradition, like a theology that has hardened into dogma, has lost all its potency.

But the common error is quite natural. People have been led into it by the philosophers themselves, who have not only striven to erect systems whose validity would never more be doubted, and which would stand fixed and serene outside the changing show of human affairs, but have also assured the world that they have accomplished this task. Descartes in his *Principia* boasted that "There is no phenomenon of nature whose explanation has been omitted from this Treatise". Pretensions of a similar character were set up by the cautious David Hume. The most modest Immanuel Kant thought that he had left little more for mankind than the task of filling in the details of his system. What shall be said of the more generous vaunts of Kant's successors? "Out of the turnings round and round inside," Kant thought that through his effort there would come 'that straightforward world-advance' that we all want. He had "substituted the certainty of scientific method, for that random groping after results without the guidance of principles, which has hitherto characterised the pursuit of metaphysical studies". This discovery of a valid method has been too often confused with the establishment of an ultimate and final system of philosophy.

Now I venture to think that no such system exists; and, what is much more, that a valid, ultimate, fixed system of philosophical doctrine is radically impossible. Indeed part of my present task is to show that to expect such a consummation to the philosopher's endeavour betrays a fundamental misapprehension of the nature of the metaphysical science. I do not believe in a last philosophy, any more than in a last poet. On the contrary, he who expects finality in the region of philosophy, and condemns its votaries for not attaining it, condemns it by reference to an unreasonable criterion and an impossible end: nay, condemns it for that which is its highest virtue.

In order to show this it is necessary to form some conception of the true end of philosophy. A complete definition of that end is as impossible as a complete definition of Goodness. I should describe the metaphysical science, in the spirit of the ancient philosophers and without sinking

any of its ancient pretensions, as the reflective reconstruction of the life of man. It is a process rather than a dogma, a process whereby man lives over again in thought the experiences of his theoretical and practical activities. It is our way, and our only way, of lifting into the clear light of thought those principles which have been acting within us and in the events of our times with the blindness and imperiousness of instinct. It is the wisdom of old age turned back in placid contemplation upon the fervid activities of youth, gathering up the meaning which was hidden during the strife and conflict and treasuring it for a better life in the future. It is not easy to lay too much stress on this truth that the office,of philosophy is primarily reproductive and only secondarily creative: that, as has been said, it 'paints its grey in grey and cannot make the old young again'.

> "Therefore, I summon age
> To grant youth's heritage;
> Life's struggle having so far reached its term.
> . . . . . .
> "Youth ended I shall try
> My gain or loss thereby;
> Leave the fire ashes, what survives is gold:
> And I shall weigh the same,
> Give life its praise or blame.
> Young all lay in dispute; I shall know being old."

Now, as philosophy is the reflective interpretation of human experience, it must accept the laws of experience as its own. Experience is its starting-point and its whole datum, from which alone it derives both its content and its method. Philosophy never did and never can construct a world from an empty thought by means of deductive logic. It is questionable, even, if any great philosopher ever fell into the error of thinking that he proceeded by this high *priori* road. It is certain that modern philosophy seeks no fulcrum outside the world whereon to base its engines. It derives all its force from the intimacy and inwardness of its relation to experience. Like every valuable theory it is explanatory only; it is ruled by the facts which it explains; it *is* the fact rendered intelligible, with its potencies laid bare. The fact breaks into the true thought, as the plant bursts into flower. Living thought is the means which the fact employs for manifesting its own nature. It is the relation of mind and the bodily organs to the physical waves which converts the latter into sounds and colours. It lifts them, so to speak, into a higher power; but it lifts

them into a higher power only because they are intrinsically capable of entering into relation with physiological and psychological conditions. The lower, or physical, is 'organic to' the higher, or intellectual. Higher and lower are parts of one whole, and therefore known in their reality only when known in their relation. There is no error of abstract thought more mischievous than that which ignores the activity of thought in the sphere of fact, or that of fact in the sphere of thought, and makes science and philosophy exclusive and rival forms of knowledge. Thought never invents, it only discovers. It starts from what already is, and it only gives to that which is the means of expressing itself more fully.

This is not the place to dwell upon the difference, within the deeper identity, between science and philosophy. Nor do I pause to show in what way philosophy reacts upon the results of the ordinary and scientific consciousness. I only wish, in the first place, to direct attention to the fundamental identity of all thinking activity, and to emphasise the immediate dependence of all thought upon its data—a dependence so deep and immediate as to make the severed elements nothing but unreal abstractions. Philosophy, indeed, as reflexion upon experience, is thought engaged upon thought. But it is a hasty conclusion to conceive that the thought it interprets is empty thought. Empty thought, evolved purely from within, is impossible, and neither philosophy nor any other science can possibly be engaged upon it.

Now if the task of philosophy is to interpret experience, and if experience ordinary and scientific as the datum of philosophy gives it both its content and its law of procedure, we may ask further whether there is any law or principle of human experience which we can agree to regard as fundamental, and therefore as a valid starting-point. I do not ask for a starting-point which is absolutely and unconditionally valid. Indeed, this lecture will fail in its main purpose if it does not show that such an absolute and unconditional point of departure is impossible. The philosophy of our day distinguishes itself from the pre-Kantian theories in nothing more broadly and significantly than in the fact that it seeks certainty not at the beginning but at the end,—were there any end. Instead of setting forth from an irrefragable datum like the Cartesian 'Cogito ergo Sum' or from a direct, immediate, authoritative testimony of consciousness, it starts from the hypothetical and moves through doubt. It seeks stability not in its foundation but

in its key stone; not in an isolated fact, but in a completed system. Or, speaking more strictly, its test of truth is complete organisation and not any mechanical and rigid relation of part to part; and, in this respect, it labours under the same difficulties, is liable to the same suspicion and claims precisely the same authority as Natural Science.

In seeking for a starting-point we, therefore, only seek 'a working hypothesis,' that is a conception which, while lacking all apodeictic certainty, commends itself to our notice by the range and the clearness of the light it seems to throw on the manifold data of our experience. Now, I think I find such a valuable, hypothetical starting-point in the conception of human experience as a process of growth. I believe that while there may be some who would deny that 'the world is growing better' and who think that in doing so they are rejecting the doctrine of evolution, neither they, nor any others, are at present able really to escape the evolutionary point of view. No one now denies the continuity of the life of mankind, even if that continuity points in the direction of decay and degeneration. All the sciences, on the contrary, combine in demonstrating with even fuller detail how in language, art, science, morals, each generation gets its starting-point from its predecessor. History is not a series of leaks. Whether the golden age be in the past or in the future it is at least certain that in the large life of man day is bound to day by 'natural piety'. Whether it be for better or for worse, the product of the labour of centuries lies between us and the crude needs and delights of the ages of barbarism.

So deeply is the thought of the present age impressed with the continuity of human experience that it is prone rather to forget the other aspect implied in its history. We forget too often that no generation, or individual, can enter upon its inheritance from the past except by making it its own.

> "Was du ererbt von deinen Vatern hast
> Erwirb es, um es zu besitzen."

There is a sense in which human experience begins again *de novo*, not only with every age and epoch, but with every individual. Every man, thinks Emerson, is a new incarnation, a fresh experiment in the world of spirit, a new attempt at realising the true and the good. Knowledge cannot come to any one by bequest, although it is a vast gain to breathe in youth the air of culture; character cannot be inherited, although it is an advantage of incomparable

value to have a stainless descent, and to be born a citizen of a good state. Every individual must, after all, front the world in his own might, be it great or small, and gain from his conflict with it such a spiritual possession as he can conquer in his own strength. Persons are the most solitary things in the world, even though they are capable of the deepest communion. Although they need all the world whereby to realise themselves in knowledge and virtue, yet each of them is as spirit, a world to himself, his own beginning and end and destiny. In fact it is the characteristic of knowledge and virtue, of all spiritual possessions that they must be acquired anew by every age and every person in an age. Nor is this truth nullified by the fact that accumulated potencies are vested in society. For it is *only* potencies that are transmitted. The utmost that one age can give to another is the raw material, which ever demands to be elaborated over again. The movement onward of mankind is thus a movement that is perpetually turning back upon itself and beginning anew. The process of human experience passes through the continual, though only partial, failure of the individual, and like all that is living, it persists by continual reconstruction.

Now, if this be the law of the fact which philosophy seeks to explain, is it not evident that it must also be the law of the movement of philosophy itself? If mind ever gathers itself into new centres and maintains itself anew in each man as against the world, reconstructing that world in thought and subordinating it to the uses of spirit, must not philosophy do the same? If so, then to the question, 'Which, then, remains of all the philosophies?' we may answer with Schiller, 'None, but philosophy itself will remain for ever'. It, too, must die to live.

The doubt which has gathered round Metaphysics, like many other difficulties which meet those who labour in the Sciences of Man, springs from the attempt to treat a moving, changing, living, growing fact from a fixed, static point of view. It is gratuitously assumed that of two alternatives one must be true, whereas fixed alternatives will yield no truth in the sphere of life and mind. A final and ultimate account, an absolute philosophy, is demanded of an object which cannot remain what it is without ceasing to be at all, which is not only always progressing but always changing as a living organism changes. For there is no mere external aggregation in the history of human experience. Every step forward is taken through concretion, in which the past is taken up into the present. Its history is a

continual synthesis of new and old, in which both new and old interpenetrate and the whole is renovated in every part.

Now it follows from this view of human experience that Philosophy which endeavours to reconstruct it by reflexion must itself follow the same law of evolution. A system of Philosophy must fail if it is faithful to its datum; it must perish with the life it explains, though it perishes only *as* that life does, namely, in such a way as to enter into the larger life which succeeds it. In the fact that system after system fails, becomes too narrow, like many a moral and religious creed, to give adequate expression to the expanding life of man I would find one of the conditions of the possibility of the vitality and permanence of philosophy. If it is true on the one hand that the failure of systems is not of itself enough to secure the success of Philosophy, it is also true on the other that a system which does not fail, a creed which is fixed is dead.

But it may be objected that our argument proves too much, in so far as it implies the continual failure of every form of systematic thought; whereas there is a definite contrast between Philosophy and the sciences, between the continual retrogression of the former and the steady onward movement of the latter.

An attempt has, indeed, been made to meet this difficulty by introducing the same law of failure into the history of science. It has been indicated, not without truth, that even the proud structure of the natural sciences has been erected with the broken columns of past experiments. Newton's *Principia,* it is argued, is no more the Science of physics; Euclid's Elements is not the Science of geometry: philosophy as regards its history and development does not differ *in genere* from the body of the Sciences. Nevertheless, I do not think that the philosopher has a complete right to use this weapon of defence that lies so ready to hand. On the contrary, I must confess that the Sciences, and especially Mathematics and Physics, have, to use the words of Kant, 'found a sure course,' and 'admit of an indefinite advancement': while, "In Metaphysics, reason seems perpetually to come to a stand, is compelled to retrace its steps and abandon one path after another". In this arena, "No victory was ever crowned with permanent possession". This contrast is, in the main, valid; and, while no advancement in knowledge can come by mere aggregation, the sciences actually have manifested a power of continuous movement which Metaphysics cannot parallel. Helmholtz or Thomson can enter into the labours of Newton

and even of Euclid; the edifice grows in grandeur just because the old foundations are sure. Twice two is always four and in Euclidean space straight lines do not enclose a surface. But what philosophical doctrine has this permanent validity? Hume was unable to accept the result of Locke's reflexion, Kant rejected the discoveries of Hume, Hegel reconstructed the whole system of Kant, and his own system looks to-day as if it were crumbling into dust beneath the blows of the minor critics. Why is the first movement of the masters in philosophy always destructive and the continuity of their labours so concealed that its very existence seems doubtful?

I believe that we may get a less prejudiced, and perhaps a truer answer to this question if we direct it against another form of activity, one whose high worth no one doubts even although it, like philosophy, is always turning *back* to the beginning. I refer to the Fine Arts. Their history, like that of philosophic systems, is a record of apparently abrupt phenomena. No one can give the genealogy of the poets. They are all Melchisedecs. We cannot discern the law of the succession of Chaucer and Spenser and Shakespere and Milton.

These great figures rise precipitously from the dead level of ordinary human life like mountains from the plain, and while the Art of Poetry grows greater in their hands no one of them accepts his task from the hands of his predecessor. Poetry no more grows by gradual expansion than philosophy does, and poets no more than philosophers continue the work of those who go before them. No poem begun by one author can receive perfection from the skill of another. There are fragments left by poets which will remain fragments to the end of time.

'Thy great Campanile is still to finish.'

We do not even expect this kind of continuity in the history of Art. Its growth takes place according to no simple law but by a series of surprises. In fact there is the same kind of contrast between the growth of Art and of Science as there is between that of Philosophy and Science; and if we can explain the former we may go some way towards understanding the latter.

I believe that the reason of this contrast lies in the simple fact that we can connect parts together, but not wholes. Art in all its forms deals with wholes; the unity of its products must ever be in the foreground, whether the elements it happens to combine be few or many. Harmony

is its first law. There must, of course, be unity in the case of the sciences also; no fact has value or significance for them except in so far as it illustrates and embodies a colligating hypothesis. But, in them, the unity is more or less latent, operates, as it were, from behind, and exists, not for its own sake, but for that of the details, the facts or events it explains. The harmony of whole and part is incomplete in the sciences, the reconciliation of law and fact is imperfect. While the work of art sustains the detail in the whole, the scientific idea uses up the particular, which has no value for its own sake but as a mere illustration or example of a law. The great pictures in a gallery of art are altogether unlike the series of phenomena explicable by one scientific law. Of the latter each reflects lights upon the others and is valuable only in relation to the others. They are only links in a chain.

But every work of Art is complete within itself. The poetic idea from which it springs has the potency of a living principle which harmonises and vitalises its parts, and so rounds back upon itself as to exclude the extraneous and make the beautiful object stand alone. An object of art, in a word, is the full incarnation of its own law, like a free being, and this is why Fine Art is free. Its reason lies entirely within itself, and to find its conditions or causes is to show that it has come by imitation and not by inspiration. But the work of the Natural Sciences is to find the conditions of one object in another. Their character partakes of the self-externality of their material, and their movement is that of space and time, and their contents essentially incomplete and proceeding by aggregation. This is why one scientific man can, to such an extent, *add* to the work of his predecessor. The physicist of to-day can go on in the line of Newton, and the astronomer in that of Copernicus. But the poet or painter must begin his work from the beginning. All that he can inherit from his predecessors are the subtle suggestions which can speak scarcely more than the language of the emotions, and which can be interpreted only by a spirit which is itself poetic. In fact every poet must look at the world from a new point of view; his touch must be creative; he must strike a new note; add a new string to the lyre of Art; the beauty he reveals must be as unexpected as the new colour in the clouds of the closing day. Hence it is that the surprises of Fine Art, the absence of any simple line of continuity in its products, or of the sameness of mere heredity in its votaries, instead of proving it a failure are the very essence of its success. No worker who

does not begin again at the beginning, make the world new by putting it in a new light, concealing by complete assimilation his debt to predecessors, can be a true Artist.

Now can a similar defence be made for Philosophy? Is the criterion of its success the continuity of its systems or their discontinuity. Should it grow, comparatively speaking, by external accretion or by a series of new creations? Is it, in this respect, like Science or Art?

Philosophy seems to me to partake of the character both of the Sciences and of the Fine Arts; it combines the fundamental characteristics of both, *viz.*, the analytic movement of Science and the synthetic impulse of Art. The sciences confessedly deal with aspects and phases only, and never with wholes. They divide nature, which is one, into fields, and the investigators themselves acknowledge that their divisions are artificial. We require a multitude of Sciences to explain even the simplest object. Geology deals with one of its aspects, physics with another, chemistry with still another. No science pretends to give a complete account of it, but to reveal from an abstract point of view one set of its relations. The Sciences have no direct vision of the unity of the object of investigation, far less do they endeavour to explain it in the light of the principle of the Universal Order which manifests itself in all the endless forms of being.

The objects of the Sciences are in this sense finite, and the finite is incapable by any repetition or multiplication of being infinite, *i.e.*, self-determined, or complete. "Content with tracing out the relation of finite things to finite things, Science never finds it necessary to seek for a beginning or an end to its infinite series of phenomena." Hence also the spirit of Science is essentially secular. "The world of finite interests and objects has, in the sciences, rounded itself as it were into separate wholes, within which the mind of the scientific man can fortify itself and live *securus adversus deos*, in independence of the infinite." Science is order in the parts, but anarchy in the whole. It is directly individualistic, and only remotely and unconsciously organic. There is the need, as Plato showed—a need now deeper and less difficult to meet than ever before—of a Science which shall unite the Sciences. We require an architectonic form of knowledge which shall unite the wings of the great structure that the sciences are building into one harmonious edifice, which shall relate them not only to each other but to the mind of man, the master-workman who impresses his own image on all things. In no age in the world's

history was there so imperative a demand for a form of knowledge which can restore to man the consciousness of the unity of the world in which he lives, and counteract the specialising tendencies of modern life which so limit and impoverish our thoughts and actions.

Now, that unity can be restored to man in two ways: by the imagination which gives to the universal a particular vesture, and where product is always, therefore, 'a noble lie,' and by the reason which gives to the universal a form adequate to itself. If we put the same thought in the order of history we may say that this unity is given by poetry, broken by science and restored by philosophy. The whole aim of philosophy is to articulate, by means of experience, one thought, and owing to the imperious demand for unity it is so like Art that it may be defined as Art made conscious of itself. Nevertheless, this consciousness of itself can be reached by philosophy only with the help of the sciences with their analytic processes. The understanding must come between the imagination and the reason. Art on its side always regards science as a foe. It resents its analytic processes, suppresses differences and antagonisms, and reaches the unity which gives beauty to its object by a method that is intuitional and in a mood which is saturated with emotion. But philosophy waits for the sciences, and must do so more and more. "The new philosophy," says Zeller, "must enter into closer relation to these sciences, avail herself of their results and their procedures and supplement her former all too-inclusive Idealism by means of a Sound Realism." Philosophy must be aware of the differences which Science reveals; it accepts with gratitude the sets of relations, the *aspects* of truth revealed by Science, and recombines them into a view of the world as a whole which is articulated and wherein the differences have free play. Its unity must come after criticism has done its uttermost; its affirmation, unlike that of imagination, must come *through* negations; its impulse towards unity must spring from the very negations and contradictions into which the abstract conceptions of the Sciences necessarily break. Nor has it any right to stop in its process of reconstruction till it is able to view the world in the light of a category which is at once the intensest unity and the source of the deepest differences.

This category is that of self-consciousness, as the history of philosophy shows. In other words, we are again brought to the conclusion that philosophy seeks to interpret the world by knowing man. It seeks to be, like religion, com-

pletely anthropomorphic, endeavouring to explain the world in the terms of the human mind. Its task is to apply the category of self-consciousness, as the physical sciences apply in their sphere the category of cause: Self-consciousness is the 'working hypothesis' of philosophy, as a glance at its present position will show. For, whether we be Realists, or Idealists, or Dualists; to whatever different degrees we hold that the world of real being has been retracted into thought and however differently we interpret the implications of self-consciousness, we all agree that our problem, our only problem, is to understand the nature of man's thought. Philosophy, in the hands of individuals, has, it must be admitted, often lost its way and asked foolish questions, such as whether the world be real or not, and whether we know it or not,—facts which *must* be taken for granted in order that there may be any problem to solve. Its true task, however, is to determine what sort of a world that must be which admits of being known, or what is the nature of the thought which is able to know the world. It seeks to comprehend the conditions under which man and the world, thought and thing, do, as a matter of fact, complete one another and enter into one harmonious whole.

Once it is recognised that the fundamental problem of man is man and that he is the key to the secret of the world; once it is adequately apprehended that we work within the limitations of our own thought and that there is no calamitous element in that fact, nothing that justifies us in condemning the world we know as a mere phenomenon and setting up over against it another world which has no qualities except emptiness and transcendence and unknowableness; once, in a word, we consistently regard the world as its own interpreter and man's thought as its finer spirit and essence, the apparent failure of philosophic systems will cease to trouble us. We shall, like Christian, find that the key which opens the gates of the Castle of Giant Despair lies in our own bosom. For the idea of self-consciousness gives us both the continuity and the abrupt new beginnings of human experience; and philosophy, in so far as it is faithful to this idea, manifests itself in the independence as well as in the sequence of systems of thought. It passes through the same process as the life which it explains; that is, it develops through successive systems each of which *must* be an organic embodiment of one principle, and, therefore, a whole which rounds itself upon itself and must, in this sense, be complete; just as the life of humanity is a life of lives, an organism of organisms. On this account,

Philosophy never is purely critical, or purely eclectic, or purely destructive, any more than a work of art is. Criticism, eclectism, refutation, to have any true philosophic value, must be themselves dominated by, and be the mere expression, which at the time happens to be more or less negative, of a dominant principle. It is only in this way that criticism and refutation can have a place in philosophy. For history shows us that there is no way of linking men's thoughts into the thought of mankind, or generations of men into a continuous humanity except by the dissipation of the individual. While links may be joined in a chain, living wholes must be assimilated in such a way that the earlier passes into the later.

The apparent failure of philosophic systems is from this point of view shown to be the negative process necessarily involved in the development of philosophy itself. Its true analogue is in the growth of civilisation—the expansion of the intellect of man and the improvement of his moral character. The pursuit of the moral ideal is not futile though no individual ever attains it, but at his best is only a temporary embodiment of some of its phases. We know that the inheritance of goodness is real, although every individual must begin to learn the good life at the beginning. Morality is always breaking down, recommencing, and nowhere do we find even in idea an absolute good. In a similar way though systems of philosophy pass away, philosophy itself remains as a witness to the expansion of the mind of man and the reflective expression of his growing life. We may say, if we please, that Plato failed and Aristotle, and Kant and Hegel, and we may safely predict the same kind of failure to the end of time. An absolute philosophy, in this sense, does not exist and cannot come to be till man ceases to be what he is, a being whose very life is strife and failure, and conquest through failure. We have no right to demand finality in an object whose essence is development and whose development is only realised in successive individuals each of which must begin his task at the beginning. In philosophy, art, and morality, fact is bound to fact not by the simple chain of causality whose beginning and end are beyond time and space and whose parts are within them, but the deeper identity and deeper differentiation of growing life. Systems of thought, poems, and moral characters comprehend their own beginning and end. In philosophy, art, and morality, man immediately expresses himself; his products are the direct manifestation of his own ideal of truth, beauty and goodness. In the

sciences, on the other hand, man's thought is subordinated to the material, exists for its sake, and partakes of the self-externality of objects in a world of space and time. Hence comes the possibility, comparatively speaking, of the aggregation of knowledge in the natural sciences; while in philosophy and art aggregation, repetition, imitation, cease to be possible just in the degree to which the thinker and the artist rise to the height of the demand of their subject.

In the succession of systems I find, therefore, a suggestion of the essentially human character of philosophy. It sits as close to man's life as art and morality, and its failure in the individual and success in the whole is strictly analogous to their failure and success. Each of these deeper forms of our spiritual activity are efforts of perfection, the ideals they seek are absolute; and all of them fail. But in spite of their failure, or rather by means of it, they expand with the growing life of man. Philosophy is asking the same questions to-day as it did in the time of the Greeks, as art is pursuing the same ideal of beauty and morality of goodness. Nevertheless I find it manifesting itself in ever richer forms, growing in complexity with the growing complexity of its material, and ever amidst the variety of the practical and theoretical interests of man remaining loyal to the idea of a principle of simplicity in things, and bearing witness, on behalf of the highest interests of thought, morality, and religion, to that unity which makes the world a Kosmos and a dwelling-place for man, whose life must be unbroken and whose mind must find itself reflected everywhere.

Who can now doubt that Socrates, Plato and Aristotle translated into perennial thought and saved for the ages which succeeded them the inner meaning of the evanescent life of Greece, which otherwise would have passed away like a beautiful transformation scene? Hobbes and Locke and Hume rendered intelligible to us the individualistic life of modern Europe, laying its fundamental principles bare, and they enabled us, thereby, to escape its limitations and to overcome its scepticism. The great philosophers who followed them, aided by the poets, set free a subtle power of organic reconstruction from which even modern Science is unconsciously deriving its inspiration and which is gradually re-interpreting for us the world of man. Their work will also pass away, but only when it is *understood*, and when it is understood it shall already have been made eternal by passing into the richer life of the future. Creeds and systems must die in order that religion and philosophy may live as the principles of simplicity and harmony in a world otherwise fragmentary and discordant.

III.—UNREASONABLE ACTION.

By Prof. Sidgwick.

In the present paper I wish to examine the conception of what I think it on the whole most convenient to call the "unreasonable action" of sane persons in an apparently normal condition; and to contribute, if possible, to the more precise ascertainment of the nature of the mental process involved in it. The subject seems to me one of great ethical importance: but I wish here to discuss it from a psychological rather than ethical point of view,—so far as the two are distinguishable.

The point is one which attracted considerable attention in Greek philosophy; since the cardinal doctrine of Socrates 'that every man wishes for his own good and would get it if he knew how' naturally brought into prominence the question 'How then is it that men continually choose to do what they apparently know will not conduce to their own good?' Accordingly the Aristotelian treatment of ethics [1] included an elaborate discussion of the 'want of self-restraint' (*ἀκρασία*) exhibited in such acts, considered primarily in the special case of indulgence of bodily appetites in spite of a conviction that they ought not to be indulged. The discussion, apart from its historical interest, may still be read with profit; but the combination of 'dialectical' and 'naturalistic' methods which the writer uses is somewhat confusing to a modern reader; and the *node* of the difficulty with which he deals seems to me to be rather evaded than overcome. In modern psychological and ethical treatises the question has, from various causes, usually failed to receive the full and systematic treatment which it appears to me to deserve; and this is the main reason why I wish now to draw attention to it.

I must begin by defining more clearly the phenomenon that I have in view. In the first place, I wish to include inaction

[1] I use this vague term because book vii. of the *Nicomachean Ethics*, which contains the discussion to which I refer, is one of the three Books which also form a part of the *Eudemian Ethics*; and as to the composition of these three Books there has been and still is much controversy. I do not propose to enter into this controversy; but I may perhaps take it as generally admitted that these Books—while certainly designed to impart pure Aristotelian doctrine—are inferior in philosophic grasp and penetration to the rest of the *Nicomachean Ethics*.

as well as positive action;—the not doing what we judge that we ought to do, no less than the doing what we judge that we ought not to do. Secondly, I mean action not *objectively* but *subjectively* unreasonable; *i.e.*, not action which is contrary to *sound* judgment, but action which is consciously contrary to the practical judgment of the agent. Such practical judgment will in many cases be the result of a process of reasoning of some kind, either performed immediately before the act is done or at some previous time; in these cases the term 'unreasonable' seems obviously appropriate. I shall, however, extend the term to cases in which the judgment opposed to the act is apparently intuitive, and not inferential. The propriety of this extension might, I admit, be questioned: but I want a term to cover both the cases above distinguished, and I can find no other familiar term so convenient. I wish then to examine consciously unreasonable action, in this sense, from a psychological point of view, as a fact of experience capable of being observed and analysed, without reference to the validity of the judgment involved in it, or of the process (if any) of reasoning by which it has been reached; simply with the view of finding out, by reflective observation, exactly what it is that happens when one knowingly acts against one's "better judgment".

Again, by "practical judgment" I do not necessarily mean what is ordinarily called "moral judgment" or "dictate of conscience" or of the "moral faculty". I mean, of course, to include this as one species of the phenomenon to be discussed; but in my view, and, I think, in the view of Common-Sense, there are many cases of consciously unreasonable action where morality in the ordinary sense does not supply the judgment to which the act is opposed. Let us suppose that a man regards ordinary social morality as a mere external code sanctioned by public opinion, which the adequately instructed and emancipated individual only obeys so far as he conceives it to be on the whole his interest to do so: still, as Butler pointed out, the conflict between Reason and Unreason remains in the experience of such a man in the form of a conflict of passion and appetite with what he judges from time to time to be conducive to his interest on the whole.

But if the notion of subjectively unreasonable action is thus, from one point of view, wider than that of subjectively wrong action, it would seem to be from another point of view narrower. For action subjectively wrong would be widely held to include action which conflicts with the agent's

moral *sentiment*, no less than action which is contrary to his practical *judgment*;—moral sentiment being conceived as a species of emotion not necessarily connected with a judgment as to what "ought to be done" by the agent or what is "good" for him. Indeed, in the account of the moral consciousness that some writers of repute give, the emotional element is alone explicitly recognised: the moral consciousness appears to be conceived merely as a species of complex emotion mixed of baser and nobler elements—the baser element being the vague associations of pain with wrong acts, due to experiences of the disagreeable effects of retaliation, punishment, and loss of social reputation, and of pleasure with acts that win praise, good-will and reciprocal services from other men; the nobler being sympathy with the painful consequences to others of bad acts, and the pleasurable consequences of good acts.

This is not my view: I regard it as an essential characteristic of moral sentiment that it involves a judgment, either explicit or implicit, that the act to which the sentiment is directed "ought" or "ought" not to be done. But I do not now wish to enter into any controversy on this point: I merely refer to it now to point out that conduct may be opposed to moral sentiment, according to the view of moral sentiment above given, without having the characteristic of subjective unreasonableness; and, again, this characteristic may belong to conduct in harmony with what would be widely regarded as moral sentiment. Suppose (*e.g.*) a religious persecutor yielding to a humane sentiment and remitting torture from a weak impulse of sympathy with a heretic, contrary to his conviction as to his religious duty; or suppose Macchiavelli's prince yielding to a social impulse and impairing his hold on power from a weak reluctance to kill an innocent person, contrary to his conviction as to what is conducive to his interest on the whole. In either case the persecutor or the tyrant would act contrary to his deliberate judgment as to what it would be best for him to do, and therefore with 'subjective unreasonableness'; but in both cases the sentiment that prompted his action would seem to be properly classed as a moral sentiment, according to the view above described. And in the latter case he certainly would not be commonly judged to act wrongly,—even according to a subjective standard of wrongness;—while in the former case it is at least doubtful whether he would be so judged.

By "unreasonable action," then, I mean voluntary action contrary to a man's deliberate judgment as to what is right

or best for him to do: such judgment being at least implicitly present when the action is willed. I therefore exclude what may be called "purely impulsive" acts: *i.e.*, acts which so rapidly and immediately follow some powerful impulse of desire, anger, or fear, that there is no room for any judgment at all as to their rightness or wrongness: not only is there no clear and explicit judgment with which the will conflicts, but not even a symbol or suggestion of such a judgment. But often when there is no explicit judgment there is an uneasy feeling which a pause for reflexion might develop into a judgment: and sometimes when we recall such states of mind there is a difficulty in saying whether this uneasy feeling did or did not contain an implicit judgment that the act was wrong. For it often happens that uneasy feelings similar to ordinary moral sentiments—I have elsewhere called them "*quasi*-moral"—accompany voluntary acts done strictly in accordance with the agent's practical judgment: *i.e.*, when such acts are opposed to widely accepted rules of conduct, or include among their foreseen consequences annoyance to other human beings. Hence in trying to observe and analyse my own experiences of unreasonable action I have found a difficulty in dealing with cases in which a moral (or prudential) judgment, if present at all, was only implicitly present: since when subsequent reflexion shows a past deed to have been clearly contrary to one's normal judgment as to what is right or best, this subsequent conviction is apt to mix itself with one's memory of the particular state of mind in which the deed was actually done. In this way what was really a quite vague feeling of uneasiness may be converted in memory into a more definite judgment opposed to the volition that actually took place. I have tried, however, to be on my guard against this source of error in my own observations; and it seems possible to guard against it by temporarily suppressing, for the purpose of the present inquiry, the disposition to self-censure—which for practical purposes it is commonly desirable to encourage, in spite of the misdirection to which it is liable; and keeping one's mind as far as possible in the attitude of impartial self-observation.

Finally, I must define somewhat further the limitation of my subject to the experience of persons apparently sane, and in an apparently normal condition. I mean by this to exclude from discussion all cases of discord between voluntary act and rational judgment, when the agent's will is manifestly in an abnormal condition,—either from some distinct cerebral disease, or from some transient disturbance of his

normal mental condition due to drugs, extreme heat, sudden calamity, or any other physical or psychical cause. Cases of this kind—in which there appears to be no loss of sanity, in the ordinary sense, the mental disturbance affecting the will and not the reason—are highly interesting from a psychological point of view, as well as from that of medicine or jurisprudence; whether they are cases of "aboulia" or impotence of will, when in spite of perfect clearness in a man's practical judgment he feels it simply impossible to form an effective volition in accordance with his judgment; or whether, to use M. Ribot's[1] terms, he suffers from "excess" and not "defect" of "impulsion," and appears to himself compelled to commit some atrocious crime or grotesque folly, or otherwise to act in a manner contrary to his practical judgment, under the constraint of an impulse which he feels to be irresistible. But the very characteristics that give these phenomena their striking interest render it desirable to reserve them for separate discussion. I admit that the line between "normality" and "abnormality" cannot be precisely drawn, and that certain phenomena, similar in kind to those just mentioned though much slighter in degree, fall within the experience of ordinarily sane persons free from any perceptible organic disorder or disturbance. I can myself recall momentary impressions of something like "aboulia": *i.e.*, moments in which I was transiently conscious of an apparent impossibility of willing to do what I judged it right to do. And though I have not myself had any similar experience of irresistible "excess of impulsion," I see no reason to doubt that others have had such experiences, apart from any recognisable cerebral disorder; it would seem that hunger and thirst, aversion to death or to extreme pain, the longing for alcohol, opium, &c., occasionally reach a point of intensity at which they are felt as irresistibly overpowering rational choice. But cases of either kind are at any rate very exceptional in the experience of ordinary men; and I propose to exclude them from consideration at present, no less than the more distinct "maladies de la volonté" before mentioned. I wish to concentrate attention on the ordinary experiences of "yielding to temptation," where this consciousness of the impossibility of resistance does not enter in; where, however strong may be the rush of anger or appetite that comes over a man, it certainly does not present itself as invincible. This purely subjective distinction seems to afford a boundary line *within*

[1] See *Les Maladies de la Volonté*, par Th. Ribot.

which it is not difficult to keep, though it would doubtless be difficult or impossible to draw it exactly.

To put it otherwise—though I do not at all wish to mix up the present discussion with a discussion on Free Will—it may tend to clearness to define the experiences that I wish to examine as those in which there is an *appearance* of free choice of the unreasonable act by the agent—however this appearance may be explained away or shown to be an illusion.

The connexion of 'subjective irrationality'—or at least 'subjective wrongness'—and 'freedom' is indeed obvious and natural from a jural point of view, so far as the jurist retains the popular view of punishment as retributive and the popular conceptions of Desert and Imputation: since in this view it would seem that 'subjective wrongness' must go along with 'freedom' in order to constitute an act fully deserving of punishment. For the jurist's maxim "Ignorantia juris non excusat" is not satisfactory to the plain man's sense of equity: to punish any one for doing what he at the time did not know to be wrong appears to the plain man at best a regrettable exercise of Society's right of self-preservation, and not a realisation of ideal justice. But from a psychological point of view there is no ground whatever for mixing up the question whether acts are metaphysically speaking "free" with the question whether they are accompanied with a consciousness of their irrationality. No Libertarian, so far as I know, has ventured on the paradox of asserting it to be essential to the conception of a rational agent that it should be possible for him to act irrationally; and no Determinist need find any difficulty in admitting that a man may be determined by a predominant appetite or passion to act in a manner opposed to what he, at the same time, still recognises as his true interest.

Nevertheless, my present wish to call attention to the characteristics and varieties of unreasonable action is largely due to the fact that its very existence appears to be not sufficiently recognised by influential writers of the most opposite schools of philosophy.

I find that such writers are apt to give an account of voluntary action which—without expressly denying the existence of what I call subjective irrationality—appears to leave no room for it. They admit, of course, that there are abundant instances of acts condemned, as contrary to sound practical principles, not only by the judgment of other men but by the subsequent judgment of

the agent: but in the analysis which they give of the state of mind in which such actions are willed, they appear to place the source of error in the intellect alone and not in the relation of the will to the intellect. For instance, Bentham affirms that "on the occasion of every act he exercises, every human being is led to pursue that line of conduct which, according to his view of the case, taken by him at the moment, will be in the highest degree contributory to his own greatest happiness":[1] and as Bentham also holds that the "constantly proper end of action on the part of every individual at the moment of action is his real greatest happiness from that moment to the end of his life,"[2] there would seem to be no room for what I call "subjective unreasonableness". If Bentham's doctrine is valid, the defect of a volition which actually results in a diminution of the agent's happiness must always lie in the man's "view of the case taken at the moment": the evils which reflexion would show to be overwhelmingly probable consequences of his act, manifestly outweighing any probable good to result from it, are not present to his mind in the moment of willing; or if they are in some degree present, they are at any rate not correctly represented in imagination or thought. The only way therefore of improving his outward conduct must be to correct his tendencies to err by defect or excess in the intellectual representation of future consequences: as he always acts in accordance with his judgment as to what is most likely to conduce to his greatest happiness, if only all errors of judgment were corrected, he would always act for his real greatest happiness. (I may add that so acting, in Bentham's view, he would also always act in the way most conducively to general happiness: but with the question of the harmony of interests in human society we are not now concerned.)

I do not think that Bentham's doctrine on this point was accepted in its full breadth by his more influential disciples. Certainly J. S. Mill appears to admit important exceptions to it, both in the direction of self-sacrifice and in the direction of self-indulgence. He admits, on the one hand, that the "hero or the martyr" often has "voluntarily" to "do without happiness" for the sake of "something which he prizes more than his own individual happiness"; and he admits, on the other hand, that "men often, from infirmity of

[1] Bentham, *Constitutional Code*, Introduction, p. 2 (vol. ix. of Bowning's edition).

[2] Bentham, *Memoirs*, p. 560 (vol. x. of Bowning's edition).

character, make their election for the nearer good, though they know it to be the less valuable; and this no less when the choice is between two bodily pleasures, than when it is between bodily and mental. They pursue sensual indulgence to the injury of health, though perfectly aware that health is the greater good".[1] But though Mill gives a careful psychological analysis[2] of the former deviation from the pursuit of apparent self-interest, he does not pay the same attention to the latter; and yet it is at least as difficult to reconcile the conscious self-sacrifice—if I may be allowed the term—of the voluptuary as the conscious self-sacrifice of the moral hero with Mill's general view that "to desire anything, except in proportion as the idea of it is pleasant, is a physical impossibility". For in a hedonistic comparison of "sensual indulgences" and "injury to health" the distinctions of quality, by which Mill's Hedonism is complicated, hardly come in: the prudential estimate, in which the pleasure of champagne at dinner is seen to be outweighed by the headache next morning, is surely quantitative rather than qualitative: hence when the voluptuary chooses a "pleasure known to be the less valuable" it would seem that he must choose something of which—in a certain sense—the "idea" is less "pleasant" than the idea of the consequences that he rejects. In short, Mill's general statement as to the relation of Desire to Pleasure and the Pleasant seems clearly to need some qualification; and if we attempt to give this qualification, we have to examine more closely the nature of the mental phenomenon in which what he calls "infirmity of character" is manifested.

But before I proceed to this examination, I wish to point out that the tendency either to exclude the notion of 'wilful unreasonableness,' or to neglect to examine the fact which it represents, is not found only in psychologists of Bentham's school; who regard pleasure and the avoidance of pain as the sole normal motives of human action, and the attainment of the greatest balance of pleasure over pain—to self or to other sentient beings—as the only "right and proper" ends of such action. We find this tendency also in writers who sweepingly reject and controvert the Hedonism of Bentham and Mill. For example, in Green's *Prolegomena to Ethics*, both the psychological doctrine that pleasure is the normal motive of human action, and the ethical doctrine that it is the proper motive, are controverted with almost tedious emphasis and iteration. But

[1] *Utilitarianism*, chap. ii. [2] *Ibid.*, chap. iv.

Green still lays down as broadly as Bentham that every person in every moral action, virtuous or vicious, presents to himself some possible state or achievement of his own as for the time his greatest good, and acts for the sake of that good; at the same time explaining that the kind of good which a person at any point of his life "presents to himself as greatest depends on his past experience".[1] From these and other passages we should certainly infer that, in Green's view, vicious choice is always made in the illusory belief that the act chosen is conducive to the agent's greatest good: although Green is on this point less clearly consistent than Bentham, since he also says that "the objects where good is actually sought are often not those where reason, even as in the person seeking them, pronounces that it is to be found".[2] But passages in the former sense are more common in his book: and he seems to make no attempt to bring them into harmony with that last quoted.

I cannot accept the proposition 'that every man always acts for the sake of what he presents to himself as his own greatest good,' whether it is offered in a hedonistic or in a non-hedonistic form. At the same time, I think that the statements which I have quoted from Bentham and Green are by no means to be treated as isolated paradoxes of individual thinkers: I think they point to a difficulty widely felt by educated persons, in accepting and applying the notion of "wilful wrongdoing," *i.e.*, conscious choice of alternatives of action known to be in conflict with principles still consciously accepted by the agent. On the other hand, this notion of wilful wrongdoing is so clearly a part of the common moral experience of mankind that it seems very paradoxical to reject it, or explain it away.

Under these circumstances it seemed to me worth while to make a systematic attempt to observe with as much care as possible—and as soon as possible after the phenomenon had occurred—the mental process that actually takes place in the case of unreasonable action. I have found some difficulty in making the observations: because action consciously unreasonable belongs to the class of phenomena which tend to be prevented by attempts to direct attention to them. This result is not, indeed, to be deprecated from a practical point of view: indeed, it might, I think, be fairly urged as a practical argument for the study of psychology, that the habitual direction which it gives to attention tends to

[1] Green, *Prolegomena to Ethics*, book ii. chap. i. f. 99.
[2] *L.c.*, book iii. chap. i. f. 177.

diminish the tendency to consciously unreasonable conduct. But though perhaps practically advantageous, the result is from a scientific point of view inconvenient. This direction of attention, however, cannot be long maintained; and in the intervals in which it is otherwise directed the psychological observer is probably as liable to act unreasonably as any one else; though probably the phenomenon does not last quite as long in the case of the psychologist, since as soon as he is clearly conscious of so acting, the desire to observe the process is likely to be developed and to interfere with the desire which is stimulating the unreasonable volition.

I also recognise that I ought not to put forward the results that follow as typical and fairly representative of the experiences of men in general. It is a generally recognised obstacle in the way of psychological study, especially in the region of the intellect and the emotions, that the attitude of introspective observation must be supposed to modify to some extent the phenomena observed; while at the same time it is difficult to ascertain and allow for the amount of effect thus produced. Now in relation to the experiences with which I am here concerned, the attitude of disengaged observant attention is peculiarly novel and unfamiliar, and therefore its disturbing effect may reasonably be supposed to be peculiarly great. I have, accordingly, endeavoured to check the conclusions that I should draw from my own experience by observation and interpretation of the words and conduct of others. My conclusion on the whole would be that—in the case of reflective persons—a *clear* consciousness that an act is what ought not to be done, accompanying a voluntary determination to do it, is a comparatively rare phenomenon. It is, indeed, a phenomenon that does occur, and I will presently examine it more closely: but first it will be convenient to distinguish from it several other states of mind in which acts contrary to general resolutions deliberately adopted by the agent may be done; as most of these are, in my experience, decidedly more common than unreasonable action with a clear consciousness of its unreasonableness. These other states of mind fall under two heads: (1) cases in which there is at the time no consciousness at all of a conflict between volition and practical judgment; and (2) cases in which such consciousness is present but only obscurely present.

Under the former head we may distinguish first the case of what are commonly called thoughtless or impulsive acts.

I do not now mean the sudden "purely impulsive" acts of which I spoke before: but acts violating an accepted general rule, which, though they have been preceded by a certain amount of consideration and comparison, have been willed in a state of mind entirely devoid of any application of the general rule infringed to the particular case. Suppose, for instance, that a man has received a provocative letter in relation to some important business in which he is engaged: he will sometimes answer it in angry haste, although he has been previously led by painful experience to adopt a general resolution to exclude the influence of angry feeling in a correspondence of this kind, by interposing an interval of time sufficient ordinarily to allow his heated emotion to subside. I conceive that often, at least, in such cases the rule is simply forgotten for a time, just as a matter of fact might be: the effect of emotion is simply to exclude it temporarily from the man's memory.

The writer of the Aristotelian treatise before mentioned suggests, however, an alternative possibility, which may sometimes be realised in the case of impulsive acts. He suggests that the general rule—say 'that letters should not be written in anger'—may be still present to the mind; though the particular judgment, 'My present state of mind is a state of anger'—required as a minor premiss for a practical syllogism leading to the right conclusion—is not made. And no doubt it may happen that an angry man is quite unaware that he is angry; in which case this minor premiss may be at the time absent through pure ignorance. But more often he is at least obscurely conscious of his anger; and if he is conscious of it at all, and has the general rule in his mind, it seems to me hardly possible that he should not be at least obscurely aware that the particular case comes under the rule.

More commonly, I think, when a general resolution is remembered, while yet the particular conclusion which ought to be drawn is not drawn, the cause of the phenomenon is a temporary perversion of judgment by some seductive feeling;—such as anger, appetite, vanity, laziness. In such cases a man may either consciously suspend his general rule, from a temporary conviction, caused by the seductive feeling, that he has adopted it without sufficient reason: or he may erroneously but sincerely persuade himself that it is not applicable to the case before him. Suppose he is at dinner and the champagne comes round: he is a patient of Sir Andrew Clark and has already drunk the limited amount allowed by that rigid adviser: but rapidly the

arguments of Dr. Mortimer Granville occur to his mind, and he momentarily but sincerely becomes persuaded that though an extra glass may cause him a little temporary inconvenience, it will in the long run conduce to the maintenance of his physical tone. Or, as before, he has received a letter that rouses his indignation : he remembers his rule against allowing temper to influence his answer ; but momentarily—under the influence of heated feeling—arrives at a sincere conviction that this rule of prudence ought to give way to his duty to society, which clearly requires him not to let so outrageous a breach of propriety go unreproved. Or having sat down to a hard and distasteful task which he regards it as his duty to do—but which can be postponed without any immediate disagreeable consequences to himself—he finds a difficulty in getting under way; and then rapidly but sincerely persuades himself that in the present state of his brain some lighter work is just at present more suited to his powers—such as the study, through the medium of the daily papers, of current political events, of which no citizen ought to allow himself to be ignorant.

I have taken trivial illustrations because, being not complicated by ethical doubts and disagreements, they exemplify the phenomenon in question most clearly and simply. But I think that in graver cases a man is sometimes sincerely though very temporarily convinced by the same kind of fallacious reasoning—under the influence of some seductive feeling—that a general resolution previously made *either* ought to be abrogated or suspended *or* is inapplicable to the present case. Such a man afterwards will see the fallacy of the reasoning : but he may not have been even obscurely conscious at the time that it was fallacious.

But, again, these examples will also serve as illustrations of a different and, I think, still more common class of cases which fall under my second head ; in which the man who yields to the fallacious process of reasoning is dimly aware that it is fallacious. That is, shortly, the man sophisticates himself, being obscurely conscious of the sophistry.

Moralists have often called attention to sophistry of this kind, but I think they have not fully recognised how common it is, or done justice to its persistent, varied, and versatile ingenuity.

If the judgment which Desire finds in its way is opposed to the common-sense of mankind, as manifested in their common practice, the deliberating mind will impress on itself the presumption of differing from a majority so large : if, on the other hand, the restraining dictate of reason is one

generally accepted, the fallibility of common-sense, and the importance of the individual's independence, will be presented in a strong light. If a novel indulgence is desired, the value of personal experience before finally deciding against it will be persuasively shown; if the longing is for an old familiar gratification, experience will seem to have shown that it may be enjoyed with comparative impunity. If the deliberating mind is instructed in ethical controversy, the various sceptical topics that may be culled from the mutual criticisms of moralists will offer almost inexhaustible resources of self-sophistication;—such as the illusoriness of intuition, if the judgment is intuitive; if it is a reasoned conclusion, the fact that so many thoughtful persons reject the assumptions on which the reasoning is based. The Determinist will eagerly recognise the futility of now resisting the formed tendencies of his nature; the Libertarian will contemplate his indefeasible power of resisting them next time. The fallacies vary indefinitely; if plausible arguments are not available, absurd ones will often suffice: by hook or by crook, a *quasi*-rational conclusion on the side of desire will be attained.

Often, however, the seductive influence of feeling is of a more subtle kind than in the instances above given, and operates not by producing positively fallacious reasoning, but by directing attention *to* certain aspects of the subject, and *from* certain others. This (*e.g.*) is, I think, not uncommonly the case when an ordinarily well-bred and well-meaning man acts unreasonably from egotism or vanity: he has an obscure well-founded consciousness that he might come to a different view of his position if he resolutely faced certain aspects of it tending to lower his opinion of himself: but he consciously refrains from directing attention to them. So again, in cases where prompt action is necessary, passion may cause a man to acquiesce in acting on a one-sided view, while yet obscurely aware that the need is not so urgent as really to allow no time for adequate consideration.

In both the classes of cases last mentioned we may say that the wrongdoing is really wilful though not clearly so: the man is obscurely conscious either that the intellectual process leading him to a conclusion opposed to a previous resolution is unsound, *or* that he *might* take into account considerations which he *does* not distinctly contemplate and that he ought to take them into account. But though he is obscurely conscious of this, the sophistical or one-sided reasoning which leads him to the desired practical conclusion is more clearly present.

Finally, there remains pure undisguised wilfulness—where

a man with his eyes open simply refuses to act in accordance with his practical judgment, although the latter is clearly present in his consciousness, and his attention is fully directed towards it. I think it undeniable that this phenomenon occurs: but my experience would lead me to conclude that it more often takes place in the case of negative action—non-performance of known duty: in the case of positive wrong action some process by which the opposing judgment is somehow thrust into the background of consciousness seems to me normally necessary. In other words, I should say that it was far easier for a desire clearly recognised as conflicting with reason to inhibit action than to cause it.

Even in the exceptional case of a man openly avowing that he is acting contrary to what he knows to be both his interest and his duty, it cannot be assumed that a clear conviction of the truth of what he is saying is necessarily present to his consciousness. For a man's words in such a case may express not a present conviction but the mere memory of a past conviction; moreover, one of the forms in which the ingenuity of self-sophistication is shown is the process of persuading oneself that a brave and manly self-identification with a vicious desire is better than a weak self-deceptive submission to it—or even than a feeble fluctuation between virtue and vice. Thus, even a man who said "Evil be thou my good" and acted accordingly might have only an obscured consciousness of the awful irrationality of his action:—obscured by a fallacious imagination that his only chance of being in any way admirable, at the point which he has now reached in his downward course, must lie in candid and consistent wickedness.

IV.—THE EPISTEMOLOGY OF ED. V. HARTMANN.

By W. Caldwell.

In a former paper[1] I sought to study the consequences of Schopenhauer's Criticism of Kant's Epistemology. The most important of them, I think, are: the rejection of the doctrine of Subjective Idealism both as regards the form and the matter of knowledge, and the rejection of the thing-in-itself as anything save a conception of the mind. This paper will seek to clear the ground a little further in the same direction by considering the Epistemological problem as seen under the forms of the hypotheses of Realism and Idealism. In particular, I shall seek to consider the statement Hartmann gives of the problem of Epistemology and his treatment of the various solutions which he holds can be given of it. His theory is at once a criticism of some recent chapters in the history of Kantism and itself a chapter in that history.

Curious though it may seem to us in England who have had Berkeley 'always with' us, Hartmann, like Schopenhauer begins from Subjective Idealism as the outcome of Kant, or, more strictly, he finds the problem of Epistemology in the Subjective Idealism which is to be traced through various exponents of Kantism like Schopenhauer, Lange, Vaihinger, and even Helmholtz, to the Critique of Pure Reason, the '*fons et origo*' of all Nineteenth Century Philosophy. To calling Kant a Subjective Idealist, Hartmann would hardly commit himself; he seems to have on the whole an eminently sound reluctance to label Kant's Philosophy at all, and thinks of Kant as in the main a transition between the common-sense view of the world and the completely metaphysical—the founder, we might say, of a sort of Transfigured Realism, a realism into which metaphysical as well as physical entities enter as constants. Kant, Hartmann says, is after all more concerned with Epistemology than with Metaphysic—an opinion which explains the putting aside, as Hartmann does, of the metaphysical systems of Fichte, Schelling, Hegel, and Schopenhauer in a purely Epistemological investigation (his metaphysical indebtedness to the three latter in particular Hartmann estimates elsewhere); and indeed the stupendous speculative edifices which were reared on the principle of Kant withdrew, by

[1] *Cf.* Mind, O.S., vol. xvi. p. 355.

their very proportions, attention from the merely Epistemological work of Kant in which of late years an interest has been taken in its connexion with Physical Science. Though concerned in the main with Hartmann's Epistemology, I shall not scruple to lay my pen on the loophole through which he runs his Metaphysic into his Epistemology.

Hartmann's two principal Epistemological writings are the *Kritische Grundlegung des Transcendentalen Realismus* and the *Grundproblem der Erkenntisstheorie*. The *Grundlegung*, after a careful introduction in which the object of the writer and his terminology are set forth with admirable exactness, starts from what Hartmann regards to be the cardinal question of Epistemology and then considers critically in order the answers given by forms of Idealism and Realism to it. The *Grundproblem* is more didactic than investigative; it is a supplement to the *Grundlegung*, being what Hartmann in Hegelian phraseology calls a phenomenological presentation of the problem of Epistemology under the light of different theories. The result of both writings is to show that neither 'Naive Realism' nor any form of Idealism but only 'Transcendental Realism' is adequate to the complete explanation of knowledge. In them both Hartmann writes an eminently clear and measured style, and by appropriate outlines and *résumés* greatly facilitates the reader's apprehension. The vigorous and careful reasoning of the *Grundlegung* it is a pleasure to follow.

I have said that Hartmann starts from the difficulty raised by the Idealist about the nature of knowledge. The *Grundlegung* starts from the alleged fact that we really only know what is immanent in our consciousness; in fact, Hartmann says that he only writes for those who have learned this first lesson in philosophy, and requests those who have not learned it to turn their attention at once to the study of Berkeley and of modern Psycho-Physics. The confirmation of Idealism that Schopenhauer found in Kant, Hartmann does not find; he censures Schopenhauer for thinking that Kant's proofs of the subjectivity of Space and Time were adequate, and gives elsewhere himself a refutation of these proofs. It becomes of course part of his own theory to vindicate the objectivity of the categories, and indeed the fact that we do apply the categories to reality constitutes a permanent reason for trying to get out of the subjectivity of knowledge. I mention this here at the outset, for if we want to follow Hartmann's reasoning at all, we must not pull him up at the inconsistency which any one who accepts the Idealistic account of consciousness is guilty of in letting slip

even one hint or one word about objects 'outside' consciousness. Transcendental Realism is the theory of knowledge which, while recognising the fact that all conscious knowledge is immanent and subjective, yet provides us with a knowledge of things-in-themselves, and this in face of the logical difficulties which seem to render it impossible to do so. It is called 'Transcendental' in opposition to 'Naive' Realism, because it teaches us that the things that are real are not the objects of our consciousness (these being only subjective) but certain transcendent objects or objects outside consciousness, and because we may therefore regard the perceptions we find existing in our consciousness to have in Kantian language 'transcendental' significance, *i.e.*, a reference to really existing things over and above consciousness. It is called Transcendental 'Realism' in opposition to Transcendental 'Idealism,' which in view of the fact that all knowledge is immanent and subjective despairs of all knowledge of things-in-themselves. Lastly, 'Transcendental' Realism differs from 'Naive' Realism in holding that our knowledge of things-in-themselves is not direct but indirect.

I. If we ask Hartmann for his proofs that our only immediate knowledge is our consciousness-content, the changes in our psychical states, we find that he appeals at once for one thing to the facts of Science. He cannot, like Berkeley or Hume, 'send a man to his senses,' to learn the truth about knowledge, for the appeal to consciousness is in his eyes the basis of "Naive Realism," which is altogether a false theory of the matter. The hypothesis of Naive Realism Hartmann summarises[1] in the following five positions: (1) What is perceived is the things themselves, not for example only their effect, and still less mere representations of imagination; (2) What is perceived in things is really so in the things as it is perceived, which does not prevent much being in things which is not perceived; (3) What work on each other are the things themselves, and this Causality of things is itself Object of Perception; (4) Things are as they are perceived, even when they are not perceived, it being perhaps possible that in the meantime a change takes place in them through sufficient cause; Perception accordingly shows us things as they are in themselves, apart from all Perception, *i.e.*, the perceived things are things-in-themselves; (5) While things-in-themselves are perceived by all percipients, the objects of Perception are for all percipients one and the same; this one single world of things-in-themselves con-

[1] *Grundprob. der Erkenntnistheorie*, s. 14.

stitutes as common object of Perception the means of connexion, the causal link, and the means of communication between the thoughts and strivings of the different subjects of consciousness. Hartmann thus finds his cardinal fact of Epistemology to be in contradiction with the immediate testimony of consciousness, and does not hesitate to proclaim the Common-sense view of the relation of knowledge and reality to be untenable and contradictory on the strength of the scientific refutation of Naive Realism. It has always been a small thing to metaphysicians that common-sense should seem full of contradictions, their assumption being that correct theory is one thing and practice quite another, and that in fact Common-sense can and does get on without theory or, in the case in point, with a wrong theory. Now the difficulty of interpreting common-sense beliefs is notorious, and indeed one is led to think that it would be impossible to formulate these beliefs if we had not an objective measure of them in actions. Psychologically in the Perception of reality belief and action are two sides of the one act of the organic self; we may therefore measure the beliefs of common-sense as to reality in the actions of common-sense, if one may so speak. Mr. Spencer somewhere practically says that philosophers have never really doubted the reality of knowledge or perception, but have only often thought that they do so for certain reasons. It is even so; only one must remember that to philosophers the reasons in question were not merely reasons but facts—facts prior to the generally received facts of perception. But surely the best way of studying the facts of perception is to study them in their entirety, *i.e.*, as aspects of an organic function of percipient beings. Hartmann, for example, recognises the fact that the knowledge of the senses is evidently not an end in itself, but is rather a means to the maintenance and furtherance of life functions.

By giving up the particular isolated sensation as not a datum, an original datum of experience in the sense it was too long thought to have been, we have come to regard perceptions as the more or less complex functional apprehension on the part of an organic being of that sphere of reality into immediate relation with which it is thrown by appropriate physical or natural process. It is wrong to think of perception as purely a *quasi*-psychical movement (if such may well exist); without the organic reaction or adjustment to stimulus there is no Perception, as, *e.g.*, in the strained ear or bent head or contraction of the pupil incident to the falling of light on the eye. It is thus not only warrantable but

necessary to seek for the beliefs of common-sense as to the perception of reality in the actions which are not only called forth by perception, but which help to constitute it. We shall in the end, I think, see that instead of asking for a justification of the objectivity of perception from the point of view of what is immanent to consciousness, it would be more natural and more correct to ask for the justification of the introspective standpoint which philosophers have adopted in regard to perception. The real matter to be explained in Perception is not David Hume's sturdy doubts about his actions in crossing a thronged thoroughfare but these actions themselves. Our beliefs about reality are the ideas that regulate the movements of our bodies, and there is thus indeed a presumption against the existence of contradictory beliefs in common-sense in the fact that such beliefs would in general (as they do in the case of illusions in particular) nullify or defeat action. That our perceptual experiences are consistent with each other is sufficient ground for holding that the perceptual world is at least a reality: our perceptions at least accomplish the definite end of regulating action. Science accepts the perceptual world as a fact demanding explanation along with the belief of common-sense in that world—that there is a world of things in space and time acting and reacting on each other. But, says Hartmann, our spatial-temporal perceptions of position and movement are the only ones that are in things the same as they are in the mind; that is, our perceptions of position and movement are like real positions and real movements, while our specialised perceptions are not like anything in things not the same—colour, *e.g.*, is only in the mind, and so on. But what can be meant by this? Science does not deny that there exists, on the testimony of the great majority of people, a colour world and a heet world, and so on. Is Common-sense really committed to any more than this about its specialised perceptions or its perceptions in general?

Let us seek to discover—quite generally—the broadest and simplest fact about Perception as above set forth. Hartmann says he objects to the recourse for the explanation of psychological facts to consciousness of which he himself has no experience, that of lower animals, say. It is, however, impossible to restrict either Psychology or Epistemology to the use of the Subjective method only. To use an illustration of Hartmann's own, the ordinary man thinks he has as immediate a hold upon reality as the polyp has in closing round its booty. Is this not true? The part that Association or Suggestion plays in Perception is of course too well

recognised to be lost sight of; but is not Perception immediate as well as mediate? and immediate indeed in some regards at the very moment it is mediate in others? Every perceiving being is a natural mechanism, a part of nature, and has the immediate sense of the reality of the medium in which it dwells, whatever that may be. Perception in short cannot be said to be only perception of what is immanent in consciousness, for perception is always the sense of existence in a world, in a whole world, in which self and not-self—whether the distinction be implicit or explicit—are correlated parts. *In* Perception spatial distinctions exist; it cannot itself therefore be a *mere* 'within'. A medusa which is a mere swimming bell can have no doubt of the reality of the watery world in which it lives and moves, for the movements of contraction and diffusion which are its perceptions make it feel itself a part of an unlimited world in which also movement takes place. In a word, if Perception imply movement, as it seems always to do—apprehensive or reactionary movement—the percipient has in movement an actual living relation to the large whole of which its body forms a part. I grant the psychological position that reality in the end means relation to my movements and impulses, but the converse is surely also true that felt movements and impulses in me mean the immediate sense of a world present to me which conditions and limits my movements. Movement is not a merely spiritual phenomenon; indeed it can hardly be called such at all, being physically or materially conditioned. In its movements in response to physical stimuli, each percipient has the immediate sense of a real world which affects it *thus or thus*—for that is perhaps all sense-perception says. In this diffuse organic sense of reality there is no inference whatever, for there is no break in the development of the life of the organism itself; a cell too is itself a differentiation of physical reality, and thus we can never think of reality as something outside it.

The organic or imperfectly localised sense of reality is the type of perception; it alone in strictness ought to be called Naive Realism, because the world of which it is the sense hardly contains any definite qualities except perhaps that of *change* or transition (so-called *Common-sense* is hardly naive, for it implies a use of the understanding). Strictly speaking, Perception or Immediate Knowledge only informs us of a *that* and hardly of a *what:* the simplest perceptions are nothing but the reflex sense of a *quasi*-reality. Unconsciously an organism constructs by its earliest perceptual reactions a medium or background on which to project its subsequent

perceptual data. The whole significance of perception consists in the relation of the different perceptual data or qualia or continua—for these are the elemental facts of Perception —to each other, as Berkeley brought out. Naive Realism does not need to be able to figure to itself where its perceptions are, whether they are in the mind or in the object, and does not stand or fall by the decision of any such question. A being with only one eye might be so absorbed in the perception of a colour that the colour would seem to be spread over its whole knowable sphere and to be thus, in fact, its sole world for the time. The significance of the specialised perceptions lies wholly, not in being in a certain place or out of it, but in being significant of the primary fields of experience.

II. The five propositions in which Hartmann states[1] the scientific refutation of Naive Realism are intended to be antithetical to the five positions in which that theory was summarised. (1) What we perceive is not things-in-themselves, but only their effect on our senses; things-in-themselves are from their very nature incapable of being perceived. The whole strength of this sentence rests on the supposition of the existence of the isolated sensation as a primary datum of consciousness: in that sense, however, the isolated sensation is a fiction. There is a fact corresponding to the isolated sensation in Perception, but it is only one of a whole circle of facts: Science is bound to consider the localised perception in reference to the development of the highly specialised sensibility which makes it possible, that is, as a modification of the immediate crude sense of reality which an organism that adapts itself to its environment has as an original and persistent perception. To say that a perception exists in the mind is to say that it has been put there in the course of a whole neural and psychical development; a localised perception cannot therefore be regarded as a first thing out of which or out of a number of things similar to it the world is constructed. The question, in fact, "Is or is not my perception (red colouring) *like* the things I believe I see with my eyes?" never arises to the merely percipient mind. It is not that the 'common man' is never occupied with such subtleties as the possible physical counterparts to his sensations, but that distinctions in the psychical content are never to be thought of except as the progressive and parallel accompaniments to other distinctions which are by a continual process drawn in the content of the physical world;

[1] *Grundprob. Erkennt.*, p. 23.

indeed the psychical distinctions are drawn later than distinctions in the physical world, which too at the outset we only know in the most general way possible; and, further, the distinction of our perceptions into specialised perceptions is never probably a *fait accompli* so much as an act of our total available consciousness, which too at the outside limits of its sphere—if we allow ourselves to think of the matter thus—shades into the mere confused bodily sense of reality to which I have referred above. With the rejection of 'things' as not entering as units into our simplest consciousness, follows the rejection of the still more complicated expression 'things-in-themselves'. (2) What is perceived can never be attributed to things-in-themselves just as it is perceived, with the exception of the special determinations of position and movement; in all other qualities things and perceptions are completely dissimilar. This too countenances the view that Perception is at some moment in time a definite reckoning up with reality when things get back from the mind with interest what they have poured previously in upon it, becoming credited with very much they did not give ('red' IN the orange and so on); so far it raises an imaginary difficulty. The significance of perception lies, it is true, in its suggestiveness, but that we are not forced to settle calculatively and deliberately; it is found in the movement of action and reaction which underlies and constitutes all perception in connecting it as an organic process with physical process in general; my body as a physical thing in perception adopts a certain relation to physical things which affect it. Common-sense is never able really to interpret its experiences on their theoretical as differing from their practical side; in seeking to do so it is liable both to fallacies of observation and interpretation. To Science the facts which common-sense attests are simply the conditions of problems. The fact of Perception is all that Common-sense is responsible for, *i.e.*, *that* a world of things exists, and not *what kind* of a world. Perceptual knowledge is true of reality, but how that reality is constituted is not matter of perceptual but of inferential knowledge. As a fact of experience, as a fact of nature, one perceptional continuum is as real as another: that colour exists is matter of fact just as much as that movement exists; and this is all that Perception teaches if we will persist in interpreting our perceptions theoretically and not practically—perception gives us, as we say, the *matter* of knowledge—that is all. It is often implied, for example, that the tangible perceptions of objects are more real than our other perceptions; they are

not; tangible perceptions have primarily a practical significance just like other perceptions; what I feel to be two may be really one, or what I feel to be one a thousand; what is felt smooth may be quite irregular in texture; movement supposed to be upwards may be movement downwards, &c., &c. All perceptions theoretically regarded state only problems. (3) It is the things-in-themselves which work upon each other, and not the perceptions; the causal action of things upon each other can only be perceived as it is limited to a causal working upon our senses. This means, I suppose, that we cannot know the real causal working of things because we only know the effects their workings produce upon our senses. But does this say any more than that we can only know of causality what we perceive? As I have given up the doctrine that Perception is subjective, it is no disproof of the reality of our causal perceptions to say that they remain only perceptions—of effects, of say *change*. The common-sense belief that things are centres of force which influences even our statement of dynamical laws is not so much utterly erroneous as imperfect knowledge. But Naive Realism does not stand or fall with the rightness or wrongness of any theory of causality it may have—I should prefer to say it had none. (4) Things-in-themselves are, apart from causally conditioned change, constant and their existence is continued, while perceptions on the other hand are 'intermittent' and their existence discontinuous. As to this, firstly, the only material things-in-themselves that are constant are the chemical substances of which the world is composed, whatever they may ultimately be shown to be, and I don't suppose Hartmann refers to these here. Ordinary things, it may be said, undergo just as many changes and modifications as do the psychical states of the percipient. As long as the percipient or his brain exists, his knowledge is true of the things that exist as long as he or it does; more than this need not here be said. (5) The world of things-in-themselves is for all subjects one and the same, but the perceptions out of which, and the operations of thought through which they are deduced, are in every subject of consciousness numerically different, even when they are similar as to content. This objection resolves itself into the last. We may, if we choose, think of a psychical energy which pervades all psychical subjects and remains a constant in the universe just as we think of a physical energy pervading all the 'things' in the physical world which are constituted out of large aggregates, persist for a time and then go to form other aggregates. I pass to a few words on the Physiological refutation of Naive Realism.

The physiological refutation of Naive Realism is intended to be corroborative of the above five positions of Physical Science. It says that what we perceive is only the world of our consciousness, that the world of things-in-themselves [1] cannot penetrate into consciousness because their effects on the mind undergo innumerable physiological transformations before they reach the brain, the organ of consciousness, and because when they do reach it, the complicated excessively rapid buzzing dance of brain molecules has no similarity with the restful, only gradually changing consciousness-content of the percipient, and that in short the world of consciousness and the world of being are two completely heterogeneous and different worlds. I cannot see that all this throws any further doubt on the reality of our knowledge of the real, although it may be said to introduce new terms into the problem. All that the facts of Science do is to place before us the assemblage of conditions which as matters of fact must be realised in order that the perception of reality which the percipient has may be possible; they do not for one moment render the affirmation of the percipient that he perceives, let us say—something, questionable. In strictness it is not the fact which is perceived that is in the percipient, but only his interpretation of it. That the frog through whose nerve or muscle I send an electric shock feels something I, the observer, know to be fact; what he does feel is probably a universe of tingling movement, and that universe, though only in him, is a real fact and a fact which I, who see more than he at the moment does, must explain. Common-sense, as Spinoza often reminds us, knows nothing of the infinitude of causes which determine its movements; but this does not destroy the fact that the perceived world whatever it may for the time be is a real world and a whole world containing more or less explicitly distinctions in itself (of course only *relatively* real and *relatively* whole, though not necessarily known as such). The objection that the diffuseness and intensity and quality make up my perception and that these are *de facto* only in me, is after a certain point only verbal; my perception means the world I am at the moment perceiving. When I am told then that colour is only in me, which in the absence of the refracting media of the eye would have no existence, I reply, firstly, that indeed the colour continuum (supposing it for the moment to be such) is not a reality which I find existing apart from other continua or realities and that therefore it is literally true that 'colour' is an

[1] *Grundprob. der Erkennt.*, p. 34.

abstraction and only "in my head"; but, secondly, that the colour world when I allow myself explicitly to think of it or perceive it (if possible) by itself is a world containing distinctions in itself, and that for my part I could conceive of the experiences of a seeing being as something perfectly definite and real; and that, thirdly, to suggest even the absence of the refracting media from colour is to suggest that a phenomenon could be possibly something after the half of it had been taken away. The world we know is a world in which psychic or nervous process is attendant on physical process and the perception of the one conditioned by the perception of the other: there is no real warrant for regarding either the psychical or the physical process as the sole reality: 'subjective' and 'objective' processes are related as the terms x and y in the equation $(f)\,x=(f)\,y$. The warrant I have for predicating my perceptual knowledge of reality is nothing less than the fact that my knowledge itself is a phase of reality, one of the facts in the sum of the facts which make up the world. I may even say that 'physical' process (the word is misleading: *in a sense* all processes are physical, *i.e.* natural, *i.e.* real, facts) becomes in beings constituted like myself 'neural' process and psychical process, only I must never think of any real process as more real than any other process. As there is no psychical process without 'physical' process, it is totally erroneous to say that perception is '*only* in me'—"only in" too is a *contradictio-in-adjecto*.

Hartmann sums up his doctrine about Perception in five propositions which constitute the antitheses proper to the theses of "Naive Realism," the real "Philosophical Refutation of Naive Realism". (1) What is perceived is one's own consciousness-content, that is, changes in one's psychical condition. The answer to this is that the psychical is only possible through organic movement which is the physical basis of perception of the real world, one thing in which may be the "self". (2) Whether there are things-in-themselves is a question lying outside the region of experience. Things-in-themselves may mean two things: (α) 'things' in the ordinary sense of the word, (β) the last structural elements of which the world is composed. The second of these meanings does not exist for sense-perception. (3) Whether our intuition and thought forms are applicable or not to things-in-themselves if we are to suppose such, lies outside the region of experience. This is a totally new point, which will recur below. Meantime, if it were true—which it is not—that I only know what is 'within' my consciousness I could never raise the question here formulated. (4) The world for me is

my subjective appearance world, which builds itself up out of my sensations and my unconscious and conscious intellectual functions. The first clause confuses the world with my interpretation of it (the 'world' is always the screen on which my subjective world exists); the second erroneously takes 'sensations' to be the elements out of which experience is built up and further introduces a new term into the problem —unconscious—of which below. (5) Whether there are or are not other worlds outside my subjective appearance world, lies outside the sphere of experience. This only means that the world has many aspects a few of which only are known to me.

I seem then to have found by reflexion on Hartmann's examination of Common-sense that the positions of Naive Realism, of Common-sense Perception and of Psychophysics, have all of them a basis in fact, and so far from being discrepant accounts of knowledge are really consistent and complementary: Naive Realism would stand for the simplest form of Perceptual knowledge wherever and whenever it is to be found; Common-sense for the imperfect knowledge of reality, which is developed and systematised by Science; Science helps to show how intimately knowledge is connected with reality by treating knowledge as itself a phenomenon of reality determined by an assemblage of conditions. The difficulty as to the relation of the 'psychical' to the 'material' elements entering into experience has been largely created by an imperfect analysis of the facts of perception. On the doctrine that Perception is of the real and that the existence of perceptions means the existence of perceptual continua, the question of the relation between the psychical and the physical becomes the relation between that form of reality which we call sense-appearance and the 'physical' system in general; psychical reality is itself a form of reality which like physical energy has many subordinate forms such as volitions, perceptions, &c., persisting in that conception of reality which has been found convenient for the purposes of Psychology: we might say that the world is a texture of continua or strata of different kinds which cross and run parallel to and dip into each other, the relation of these different strata or trends of reality to each other being the problem of knowledge in general. Even minds must be treated objectively—say, as objects which are also subjects. Thus in the end the relation of knowledge to reality becomes the question of the relation of one kind of reality to another, for all reality is related and knowledge as we have seen is a form of reality. Of course we come at last in face of a dual-

ism: that is there are more kinds of reality than one. To the idealist then who holds that we cannot know things, because, as Schopenhauer says, "Between us and things there always comes the intellect," we answer that we can know reality because intellect or mind is one of the things we can observe.

If I try to recount somewhat I may say: (1) Hartmann in his examination of Common-sense has been desirous to credit it with a theory; whether Common-sense has a theory or not seems to me extremely questionable. The fact that Common-sense takes its intuitions to be all original and immediate is of course to be traced to its ignorance, but out of this presumption can be disengaged the truth that knowledge is of the real. (2) Hartmann has tended to think of Common-sense under the light of the astonishment the common man feels when told of the facts of Science about his perceptions, *i.e.*, of Common-sense as making assertions against negations rather than as the basis of positive conduct: what the common man says to the teaching of science is of course not of the slightest importance; he is quite unable to interpret the facts the scientist brings before him. (3) Hartmann tends to think that in his doctrine of the subjectivity or immanency of perception he has laid his finger on the elements out of which experience is built up. The immanent perception means the localised perception, and that is rather a last stage than a first stage in knowledge. (4) There is no inconsistency between Common-sensism and the truth about the simplest form of knowledge.

III. I repeat here that if it is true that knowledge is only of the immanent and the subjective, by no conceivable rational process could the idea of things-in-themselves either in a positive or in a negative sense enter into the mind—and this apart from the fact that 'only immanent' or 'only subjective' is a self-contradictory conception. The idea of things-in-themselves represents what we might call the cardinal and structural fallacy of Idealism. I do not wish, however, so much to inquire how exactly Hartmann starting from the Idealistic hypothesis comes to the conception of things-in-themselves as to indicate how his examination of the forms of Idealism (which has a distinct value on its own account) is a step in the progress of his own thought. He of course would naturally say, as Schopenhauer substantially says, that knowledge must evidently be determined or accounted for by some transcendent or other, seeing that it is immanent and does not determine or account for itself. It is obvious that in this position two points of

view are implied: firstly, that of the introspective Solipsist; and, secondly, that of the observer of knowledge as a process in some brain or other. Fichte in opposition to both Schopenhauer and Hartmann is the consequent Idealist; holding that knowledge contained all distinctions in itself, he refused to explain knowledge by anything outside itself and postulated therefore the subject which returns upon itself by the force of its own self-activity. The idea that determines this step of his is that our knowledge of individual things and ourselves is only to be explained out of a prior all-inclusive knowledge in which the distinction of self and not-self meant no rift or absolute division, but was not therefore unreal but rather implicitly real; this prior knowledge he might have found in the fact of the primitive confused knowledge of Perception without going into the cloud-land of the movements of a subject which signify for us nothing that we can definitely verify. Hartmann has a good deal to say about Kant's attempts to get a thing-in-itself. He says rather aptly at one place that the Æsthetic of Kant reduced all reality to appearance (Erscheinung), but that the Logic goes a step further and reduces that remnant of reality, the appearance, to a still more problematical reality, mere semblance or show which is possibly illusory (Schein); this of course in view of the things-in-themselves behind the scenes. I do not wish here to say what the things-in-themselves in Kant are; it is enough to remember that in Kant himself there is the material for either an Idealistic or a Realistic interpretation of these entities (whatever they are). On the hypothesis that Kant is in general an Idealist, Hartmann finds, what most critics do find, that any attempt to make out a verifiable position or *rôle* for things-in-themselves is in conception inconsistent and illogical, and with infinite care selects and examines and finally rejects a number of striking passages in which Kant makes an attempt to reach a transcendent. He further distinguishes Consequent Transcendental Idealism, which rules out of court any positive assertions about things-in-themselves, from Inconsequent Transcendental Idealism, which, while recognising the ruling about the knowledge of things-in-themselves, yet makes exceptions in certain directions, and allows of a kind of knowledge of things-in-themselves. The three most important forms of Inconsequent Transcendental Idealism are Solipsism, Immaterial Spiritualism, and Monadology; each of these Hartmann admirably weighs and finds 'wanting'. The result which we are left with is therefore that on the principle of Idealism (Berkeleyan say, or Kantian) there

is no knowledge of the transcendent, of things-in-themselves, nor can we explain why we should be haunted with this spectre of our defeat: the world becomes not merely a *Hirngespenst* which has, say, the reality of a consistent dream, but a changing spectre, a will-o'-the-wisp which only mocks us with illusion (*i.e.*, Erscheinung becomes Schein). Hartmann summarises his criticism of Kant by saying that Kant instead of having succeeded, as he thought he had and as he intended in establishing the possibility of experience, has actually demonstrated the impossibility of experience. Let us write these words about the Idealistic hypothesis and we shall say the truth without being burdened with scruples about fairness of interpretation. Idealism began by the laudable attempt to show how knowledge of things was possible because reality in fact was *quasi*-mental in signs or appearances for our help only; but carried out into a system it makes knowledge lose itself in illusionism, in Pyrrhonism. One cannot praise too highly Hartmann's criticism of the Idealistic hypothesis; he calls it of course Transcendental Idealism, denoting by that the fact that it remains set fast in difficulties about what is 'outside the mind'. Perhaps it may be said that others have done this work as well as Hartmann; but the value of Hartmann's execution is not alone in its perfect sureness and definiteness, but in its also being the work of one who is himself a professed metaphysician. But now at once we come upon what is more difficult to think intelligibly than even the Idealistic hypothesis itself—the *further* attempt that Hartmann makes to get to a transcendent on the presupposition of the Idealistic version of the cardinal fact of knowledge. Instead of revising his 'first principles' as we might have expected he would, Hartmann goes further or attempts to go further on the same lines. Like Schopenhauer he thinks that in the Idealistic pathway we may and can strike into a second or quite other way of reaching the thing-in-itself; he says it is part of Schopenhauer's signal merit to have recognised the truth that a way other than the way of conscious knowledge might lead us to the goal of the *Jenseits*. This leads me to the Epistemological (as distinguished from the Metaphysical) aspect of "Transcendental Realism".

IV. *Transcendental Realism.* Transcendental Idealism having failed in Hartmann's language to construct for us a bridge between the immanent and the transcendent we have to test the bridge which Hartmann believes Transcendental Realism builds between these two poles of thought and

reality. I find myself unable to describe the theory any further without speaking of the proofs of it as an hypothesis: to say what these are is a matter of extreme difficulty—not that the proofs are not formulated with the persistent care which characterises Hartmann's work, but that it is difficult to read a real meaning into these proofs. If it can be shown, says Hartmann, that Transcendental Realism is the only hypothesis that accounts for the facts of knowledge and experience, there is a presupposition in favour of its truth: this might be called the Indirect Deductive proof. An Inductive proof of the hypothesis would exist if one could show: (1) certain facts on which it is based to begin with; and (2) that an inductive examination of the facts of experience leads to its principles. We shall immediately see that the Inductive proof is also only indirect. Hartmann has recourse to both these methods of proof; and is fair enough to recognise distinctly that in the end Transcendental Realism remains a hypothesis; holding, however, that the amount by which his hypothesis falls short of certainty could be represented by an infinitesimally small fraction $\frac{1}{\infty}$, he feels himself entitled to build a metaphysical system upon it. The indirect deductive proof he regards as given in his proof of the inadequacy of 'Naive Realism' and 'Transcendental Idealism' as explanations of knowledge. The material of the inductive proof is touched on in the *Grundproblem*, but is to be found *in extenso* in his other writings, chiefly in the *Philosophie des Unbewussten*, Hartmann's *chef d'œuvre* and earliest work.

After the rejection of Naive Realism as a completely untenable theory there remain the two forms of Transcendentalism (the only true Philosophy according to Hartmann): Transcendental Idealism and Transcendental Realism: either things-in-themselves are merely hypothetical or they are real entities. Three positions, says Hartmann, are possible in reference to these two theories: (1) the sceptical *non liquet;* (2) the assumption of Transcendental Idealism; (3) the assumption of Transcendental Realism. As I have indicated what Transcendental Idealism is, I shall at this point indicate also what Transcendental Realism positively means to Hartmann, in order that we may see between what theories our choice exactly lies. Hartmann, still influenced by the Idealistic postulate that what I immediately know is in myself, talks of being "in earnest" with the problem of getting to reality—to things-in-themselves; in short, what he does is definitely and shortly this. In spite of all he says and knows about the impossibility of making, on the principles

of Kant, a transcendent application of the principle of Causality, he finds in Causality a rope which pulls him out of the sea of Illusionism into which Transcendental Idealism has thrown him. But first he gives a 'dressing' to the Causal Principle to make it suit his purpose [we are reminded of Kant's dressing of the table of judgments]: we must not, he says, construe Cause in the narrow sense of a mere connexion of presentations among each other, but rather as the law of a conjunction of existent things in general (Gesetz einer Verknüpfung von Seienden überhaupt). This of course is a remarkably fine conception of Causality, but it begs Hartmann's point for him: he can now talk of having a tie between things in the mind and transcendent things (the 'transcendent' properly should not be a 'thing' or 'things'), one end of which [*i.e.*, the immanent] we have in our hands. Certainly there is a cause for our affections, or rather as Hartmann admirably suggests: our affections must be determined in relation to all other things; they must, but a "transcendent" cause does not show us *how;* it only states the law of connexion in general as fact. Still the cause of our affection is to Hartmann the transcendent, and we want to know what further knowledge we have of the transcendent. With the attribution to it of the category of cause the other categories follow as all applicable. Hartmann shows how each of the following categories apply: unity, plurality, substance, existence, necessity, space, time (in connexion with the two latter, as I said, he carefully refutes the arguments of Kant in the Æsthetic). Again, things-in-themselves are metaphysical realities, and Hartmann insists that his Philosophy is not only an Epistemology but a Metaphysic: he wants to describe things-in-themselves then as metaphysical entities. Indirect Deduction gives him the start: the transcendent cannot be 'object'; an object in itself is, on Idealistic principles, a contradiction: "it is a contradiction that I should be able to think something which is not my thought"; even with Kant's *intuitus originarius* we could not know things-in-themselves, the things in that case would still be only our representations: "only as elevated above the contradictions, first wrought by consciousness of subject and object, could it [the *intuit. orig.*] think the Absolute". Hartmann reiterates the cardinal articles of Idealism: "It is matter of indifference whether, with the materialist, one takes the other side of the conscious representation to be eternal matter, or with Berkeley . . . personal God, or with Kant an unthinkable x, or Idea, or Will, . . . in all this, the *fundamental Epistemological truth*

[*i, e.*, that knowledge is of the immanent] *is not in the least affected*"; and yet we have to remember that "He who acknowledges the argument that 'What I can think is my thought, so what is not my thought is to me unthinkable' is *irretrievably lost in Illusionism*".[1]

Out of this maze then every *sortie* from which is a *cul de sac* Hartmann saves himself by a leap similar to Schopenhauer, into another *genre* of fact altogether; he avoids Mysticism, that grave of knowledge, by assuming that the transcendent must be partly unlike consciousness and partly like it: "thought and yet not my thought"; "an ideality and yet not an ideality in my actual, present consciousness"; "a content like to my consciousness, and yet not that itself". In defiance of the rubric of Idealism he says: "Consciousness[2] reproduces through reflexion a thought-presentate, saying to itself that this presentate is not its present thought" (!). An intelligible meaning the sentence only acquires on the ground of the idealistic postulate. To what strait has the so-called *a priori* or ideal deduction of the real been reduced! At last the transcendent is pinned down as the "unconscious"—an excessively subtle double-thought; the 'unconscious' seems to fulfil the conditions just formulated; sweeping together *Panlogismus* and *Panthelismus*, Hartmann says that transcendent causality (the thing-in-itself) is an[3] "efficacious, unconscious, ideal happening" (Kraftvolles unbewusst ideales Geschehen). One cannot but ask oneself whether these four words mean so very much more than the measurable energy of the physicist. How Hartmann reconciles the unconscious with the plurality he attributes to things-in-themselves is the question of the consistency of his metaphysic, which does not concern me here. His Epistemology however seems to me to lead either into an unknowable something or to collapse on "the given," or the common-sense and the "common sunshine" he despises; I should prefer to pin him down to the latter (as simply matter for scientific investigation) for I reject *in toto* the roundabout way to reality through the porch of Subjective Idealism—ideas are only themselves facts to be determined in the ordinary way. As Schopenhauer says, "All knowledge is of itself and originally Perception"; the function of Thought or indirect knowing is not to create reality on its own account but to enable us to interpret the different spheres of reality immediately given to us in Perception by distinguishing

[1] *Grundleg. des Tr. R.*, s. 91.
[2] *Ibid.*, s. 91. [3] *Ibid.*, s. 92.

between them and enabling us to abstract one of these spheres for special and further examination.

I return to the two alternative forms of Transcendentalism. Must we choose between them? Not surely if Transcendentalism itself is an unreal alternative to, let us say, Realism. I have tried to show already that Naive Realism and Common-sensism have not a contradictory or a false, but only an incomplete knowledge of reality. There remains the Realism of Science; is that an account of Knowledge and experience which needs to be corrected by say Transcendentalism? Science explains psychical realities by reference to their physiological and physical and chemical conditions; that is it explains as it always does a specific set of conditions by reference to a more general set of conditions—here, what is in my brain by reference to what is outside my brain or by treating my brain as simply a part of reality. Is there any objection to this? and does not Hartmann do the same only in a different way? One plane of reality is by Hartmann and by the scientist explained by reference to other planes of reality supposed, not to be more real (that cannot be: all planes of reality are equally real) but to be better known or more easily observable. Now, practically what Transcendentalism really expresses is the fact that no one plane of reality can be regarded as really ultimate, but only as relatively so: we may always go from one kind of reality into another which may, according to the state of human knowledge at the time, be better known; in a word, we may go infinitely far in our study of the real. The tendency to regard one plane of reality as ultimate is one which the scientist and the metaphysician have in common; the tendency is only a tendency and will never reach a goal; it is only an expression of the fact that there is progress in knowledge and that new planes of reality are always being disclosed. An ultimate plane of reality would be the Thing-in-itself; but the Thing-in-itself will never be reached by us, as reality must be for us twofold in order that knowledge may exist; there is no Thing-in-itself: all things and planes of reality are RELATED. The scientist who explains psychical energy by chemical processes has of course not destroyed the fact of psychical energy, just as the idealist has not destroyed the reality of things by insisting that he must go through some purely psychical processes before he can know things. Idealism is the philosopher's *idolon*, just as materialism is the scientist's: over and against both stands the Transcendentalist who tells them that reality is not measured by only one of its planes. But Transcendentalism cannot be dogmatic;

it only expresses the fact of transition in knowledge and reality, just as Idealism and Naturalism draw attention to certain facts in experience: all three are aspects of Realism in the broad sense. Scientific Realism, and Transcendentalism are not incompatible. Hartmann's Transcendentalism was invented to get over or out of the "abstraction" of Idealism; there is a better way of getting out of Idealism than by this *salto mortale:* one should refuse to go into it; it is impossible to fly in face of fact and logic. Idealism is a false, an incomplete analysis of Perception.

Hartmann's assumptions have been: (1) The real is the transcendent. He thought this because he started from the idea that the 'given' real was the immanent. The given real is not the immanent, consequently the real is not the transcendent in the sense he took it to be. The real of course in Mr. Spencer's phraseology 'transfigures' itself. This is all that Transcendental Realism can really mean —Transfigured Realism. (2) Metaphysic is monistic, while Science is dualistic. But the fact remains that we are always in face of a dualism in *at least two* planes of reality. The unity of experience is the world itself as a whole: of what really "transcends" experience we have no knowledge. All the reality we know, spiritual and material, is IN experience. (3) That the isolated sensation is a fact. The isolated sensation is the localised perception; localised perception is accompanied by a sphere of relatively obscurer perception; the sense of the real is general; therefore the isolated perception is not a fact of experience, nor is the isolated sensation.

The results of our investigation in general are: (1) Dogmatic Idealism is an *idolon specus;* so therefore is the Transcendentalism invented to get rid of it. (2) Commonsensism is only an imperfect and not a contradictory account of reality; it needs only to be supplemented by the scientific. (3) Realism in the broad sense is not antithetical to, but inclusive of, Idealism. The Epistemological form of Scepticism is the product of the Idealistic hypothesis. That scepticism is the illusionism wrought by the impossible thesis that knowledge is a process which destroys itself: "We cannot know things because between us and things there comes the mind" means that we can never know things because in order to know them we have got first to know them, *i.e.*, to falsify them.

V.—DISCUSSIONS.

MR. BRADLEY ON IMMEDIATE RESEMBLANCE.

My agreement with Mr. Bradley that "the issue involved is one of very great and wide-reaching importance" must be my excuse for sending a word of comment on his paper in the January MIND. The text of his criticism is furnished by pp. 490-4, and 532-3 of vol. i. of my work *The Principles of Psychology*, and the exact question is this: Is the 'resemblance' which we predicate of two objects due in the last resort always to the operations on our mind of qualitatively identical elements contained in each? Or, may we, on the other hand, admit the existence, amongst our mind's objects, of qualities or natures which have no definite 'point' in common, but which we perceive to be, although numerically distinct, yet *like* each other in various degrees and ways? We so often discover later the exact point of resemblance in two composite objects which first struck us by their likeness as vague wholes, and we are so often able to name it as an identical portion in both, that the temptation to generalise lies very near; and we then say that there can nowhere be natures *immediately* like or unlike each other, and that every case of so-called similarity, even the simplest, must constitute a problem in analysis, which a higher discernment might solve. But since the higher discernment, methodically abandoned to this analytic quest, ought not to stop at any elements of which resemblance is simply affirmed (for the 'point' of this resemblance must then also be sought), it is obvious that the problem can only lead to one of two conclusions, either to

(1) The postulation of point after point, encapsulated within each other *in infinitum*, as the constitutive condition of the resemblance of any two objects; or to

(2) A last kind of element (if one could then say 'kind') of whose self-compoundings all the objects, and of whose diverse *numbers* in the objects, all the likeness and unlikeness in the world are made.

Of these two views of resemblance the former leads to a sort of Leibnitzian metaphysics, and the latter to what I call the Mind-dust theory.

My solution, or rather Stumpf's (for in my book I am but the humble follower of the eminent Munich psychologist), was to take neither of these objectionable alternatives, but (challenging the hasty hypothesis that composition must explain all) to admit

(3) That the last elements of things may differ variously, and that their 'kinds' and bare unmediated resemblances and contrasts may be ultimate data of our world as well as provisional categories of our perception.

Mr. Bradley is dissatisfied both with this thesis,[1] and with the arguments given in my book to support it. I care much more about the thesis than about the arguments, so I will spare the reader all cavil at my critic's treatment of the latter. In particular I abandon the *series*-business to his mercy, as being something inessential, for I am much more concerned with furthering understanding of the subject than with defending my own text.[2] As regards the thesis itself, Mr. Bradley quarrels greatly with the *simplicity of the elements* between which in the last resort it contends that bare unmediated resemblance may obtain. I did, it is true, assume in my text that the elements were simple, and I called them simple qualities, but I regard that as an entirely inessential point. So far as my thesis stands up for ultimate unmediated likeness as against likeness dependent on partially identical content, it makes no difference whether the last elements assumed to be like, are simple or complex. They must only not contain any identical point. In other words, complexes like *abc* and *def* might resemble each other by principle (3) as well as simple elements like *a* and *b*.

This clears up one confusion. But dire confusion still remains in my mind as to the rest of what Mr. Bradley may mean. He has a solution of his own which is like neither (1), (2), nor (3) as propounded above. He alludes to it abundantly, but dispenses himself from stating it articulately, or illustrating it by any example, because it proceeds from a principle which he imagines to be 'the common property of philosophic students'. Such oracular expression of opinion might fairly exempt one from the duty of nearer research, but the great debt I owe to Mr. Bradley's Logic makes me struggle in the hope of yet finding valuable truth. Mr. Bradley appears to hold that all likeness must be 'in and through a particular point'—at least he says so on page 85. Now call the 'point' *m*, and the two like objects *a* and *b*. If the *m* in *a* were simply *like* the *m* in *b*, that would be that simple resemblance over again with which Mr. Bradley is not content. But if we suppose the two *m*'s to be alike by virtue of another 'point,' finer still, that leads to infinite regress; and that again I understand Mr. Bradley not to favour. It then would remain open to say that the two *m*'s in *a* and *b* are *identical* in nature

[1] Or have I made a gross blunder, and is he dissatisfied really not with 'simple resemblance' but only with 'resemblance between simples,' on which, as I presently explain, I do not insist?

[2] One misapprehension, however, I may complain of. Mr. Bradley seems to accuse me of believing that the 'points of resemblance' which form the ground of similarity must be 'separable' parts of the similar things. *Discernible* parts are all that the argument requires; and I surely never implied that the 'points' in question must be susceptible of physical isolation. The accusation is so absurd that I fear I have not understood Mr. Bradley's text.

and only numerically distinct. But here again pure identity displeases Mr. Bradley, whose great principle is that "our one chance lies in maintaining the vital, the inseparable connexion at every point between identity and difference" (bottom of p. 88). Just how this principle works in the matter in question, Mr. Bradley does not divulge, and I wish that, instead of his pleasant irony about my familiarity with the dialectical method, he had himself given some exacter account. I have laboured with the greatest good-will to reconstruct his thought, but feel wholly at sea with my results. If he means simply the Hegelian commonplace that whereas neither the abstract sameness nor the abstract otherness of two objects can constitute likeness between them, the likeness must seek in the 'synthesis' of the sameness with the otherness its only possible mode of realisation, that seems to me but an excessively clumsy way of stating in terms of a *quasi*-miracle the very truth which Stumpf and I express by saying that likeness is an immediately ascertained relation. You cannot for ever analytically exhibit its *ground*, but must somewhere at last postulate it as there, as having already effected itself, you know not how. Nothing is gained for our understanding by presenting the process as a sort of juggler's trick, that, namely, of the seemingly impossible coalescence, of two contradictory terms; and therefore I cannot believe that the subtle Mr. Bradley has anything as innocent as that in his mind. Perhaps what I write may draw him from his reserve!

Of course there is a familiar path open to those who believe that likeness must be 'in and through a particular point,' and who yet deny that the 'point' can be in two objects the *same*. They can call likeness an 'Antinomy'; saying that all likeness of wholes is conditioned on that of their metaphysical parts, and that unconditionally like parts are unattainable, however long one may seek. But this leaves both immediate likeness and apparent identity as ever-recurring categories in our thinking, never to be expelled from our empirical world, and I submit that Mr. Bradley has not yet shown these categories to be absurd. 'Antinomies' should surely not be multiplied beyond necessity. The qualities of the things of this world, the 'terms' between which likenesses and differences obtain, are not supposed to be engendered by the summation of a procession of still more inward qualities involved within each other in infinite regression, like the whirls of an endlessly converging spiral that never reaches its central point. Why need we insist that the 'relations' between the terms, the likenesses and differences themselves, must be engendered by such an impossible summation or synthesis? How quality logically *makes itself*, we do not know; and we know no more in the case of the quality of a relation of likeness, than in that of the quality of a sensational content.

WILLIAM JAMES.

CONSCIOUSNESS AND EXPERIENCE.

The idea of writing a few remarks on this head was suggested to me by Mr. Ward's article on Modern Psychology. These remarks are not intended as a contribution to the subject, and certainly not as a hostile criticism. We must all feel grateful to Mr. Ward for his interesting discussion, and for myself I feel sympathy with its general drift. And, as Mr. Ward has not yet worked out his positive view as to the Subject, it would be absurd in me to offer to criticise that view beforehand. But what has struck me is that in the discussion assumptions are used which, if true, are very far from appearing self-evident. And, though in his own mind doubtless Mr. Ward is prepared with a defence of them, I do not find that he has done anything to prepare the reader. Hence I thought it might be well to call attention to some points which seem ignored, but which to my mind appear to be fundamental.

The main assumption seems to be the identification of experience with consciousness. Now, if by consciousness we understand the being of an object for a subject, this assumption, I should say, is at least disputable. To my mind consciousness is not coextensive with experience. It is not original, nor at any stage is it ever all-inclusive, and it is inconsistent with itself in such a way as to point to something higher.

(1) On the inconsistency of consciousness I can partly refer to Mr. Ward, but I must also state the case briefly in my own way. We have an object, a something given, and it is given to the subject. Is the subject given? No, for, if so, it would itself be an object. We seem, then, to have one term and a relation without a second term. But can there be a relation with one term? No; this appears to be self-contradictory, and, if we assert it, we must justify and defend our paradox. But, again, can a term be known only as a term of a relation or relations, while it is not, in any aspect, known otherwise? No, once more; this is impossible, and in the end unmeaning. Terms are never constituted entirely by a relation or relations. There is a quality always which is more than the relation, though it may not be independent of it. We may, of course, for certain purposes abstract and use working fictions, as we do, for instance, in the case of atoms and ether. But, outside natural science, it is a serious error to mistake these useful fictions for realities. And anything like a point without a quality in the end seems to be unreal, and "constitution by relations" a misleading phrase. But, once more, can we have a relation, one term of which is contained in the experienced and the other not? No; for a term, which is not in some sense experienced, seems nothing at all. If in itself it falls outside the experienced, then it appears to be unmeaning, and it cannot therefore consistently be said to exist.

Or at least we must continue to hold this, until our difficulties are met. And they are not met by the mere repetition of those every-day distinctions which we have been forced to set down as barely relative.

And now, leaving the terms, consider the relation. Is there, in the end, such a thing as a relation which is merely *between* terms? Or, on the other hand, does not a relation imply an underlying unity and an inclusive whole? And then, once again, must not this whole be experienced or be nothing? Here are points surely which at least require some discussion. But consciousness must lead to self-consciousness, where possibly these difficulties are lessened. If the object is given to me, then I also must be given, and on reflexion I so find myself. I find myself given not in the abstract but as concrete experienced matter. Both terms are now objects, experienced with their relation, and the question is whether the difficulties are now less. We must reply in the negative. The correlated terms are for a subject which itself is not given. The correlation falls in the experience of this new subject, which itself remains outside that object. And of the relation to this new subject the old puzzles are true. This relation must have two terms, terms more than their relation; and the "more" again must be experienced, or else be nothing. Any attempt to pass from within the experienced to that which in itself is not experienced, seems quite suicidal. The distinction between the experienced and experience seems in the end totally inadmissible. And the infinite regress is but an actual unremoved contradiction. It *is* itself an absolute irrational limit.

(2) The form of consciousness thus seems in hopeless contradiction with itself. But is it necessary to identify experience and consciousness? Here is a question which seems worth some consideration. Now consciousness, to my mind, is not original. What comes first in each of us is rather feeling, a state as yet without either an object or subject. Feeling here naturally does not mean mere pleasure and pain; and indeed the idea that these aspects are our fundamental substance has never seemed, to me at least, worth discussing. I have ventured to consider it an absurd perversion of the older view. Feeling is immediate experience without distinction or relation in itself. It is a unity, complex but without relations. And there is here no difference between the state and its content, since, in a word, the experienced and the experience are one. And a distinction between cognition and other aspects of our nature is not yet developed. Feeling is not one differentiated aspect, but it holds all aspects in one. And, though a view of this kind naturally calls for explanation and is open to objection, I am forced to doubt the wisdom of ignoring it wholly. For, if it is difficult, it seems hardly so difficult as to take, for instance, our inward Cœnesthesia as throughout our object. And a reference to Volkmann's book would show that it owns, more or less, the endorsement of well-known names.

But, if it is not false, then the identification of consciousness and experience is a wrong assumption.

(3) But consciousness at all events, it may be urged, at a certain stage exists. Doubtless, but feeling on this account does not wholly cease to exist, and the experienced is therefore always more than objects together with pain and pleasure. Everything experienced is on one side felt, and the experienced is, also in part, still no more than felt. I fully admit the need here for explanation and defence,[1] but I cannot admit that such a view deserves to be ignored. The real subject, we may say, is always felt. It can never become wholly an object, and it never, at any time and in any case, ceases also to be felt. And on this felt background depends the unity and continuity of our lives, lost hopelessly by Associationism, and lost no less hopelessly by the identification of experience with consciousness. Our personal sameness consists in the ideal identity and the continuity of the experienced. Nothing more is wanted, and anything more, if it were possible, would, at least so far as we are concerned, be nothing. And the opposite of this, I venture again to urge, should not be assumed as self-evident.

For, in dealing with the puzzles of consciousness and self-consciousness, the difference brings important consequences. Those puzzles consisted in the internal difficulties of the relation and its terms, and then again in the fact of the relation itself. An experienced relation seems to involve an experienced whole, but this whole is at once supplied by feeling. For consciousness is superinduced on, and is still supported by, feeling; and feeling is itself an experienced whole. And the difficulty of the relation and its terms might from the same basis be dealt with, though naturally I cannot attempt to work this out here. I will however try briefly to point out where the solution lies. There is a doubt, first, whether consciousness must imply self-consciousness. Can there, in other words, be an object, unless that object bears the character of a not-myself? In this latter case the "object" itself will be but part of the whole object, for it will be given as one term in relation with another given term. This question to some slight extent, perhaps, is one of language, but for our present purpose it may be left unanswered wholly. The solution of the problem in any case remains the same. And that solution lies in the fact that between the felt subject and the object there is no relation at all. Whether the object contains, or does not contain, a self and not-self in connexion, on either view there is still a real felt subject. And the object qualifies this subject, but

[1] One point to be noticed is that the products of relation and distinction apparently come to be experienced without their process. In this way relational complexes may be experienced immediately, and, in a secondary sense, felt. Such felt masses can be attached to the object of consciousness, but to a far larger extent they qualify the background.

there is emphatically no experience of a relation between them. And when by reflexion a relation seems given, the experience has been changed. That relation is now part of a new "object"; and with that new object we have a felt subject, with which it is experienced, but to which it is not related.

The above statement, I am well aware, calls for much explanation, but the only proper explanation would be a full treatment of the matter. What an "object" is, and how it differs from the rest of the experienced, how a content becomes an object, and how the transition is made from feeling to consciousness—these are problems which in a small space could not be dealt with. But, assuming an object in the sense of a something *for* me, I will say a few words on this preposition. The word "for" without doubt asserts a relation, and in addition it asserts a relation in space; and, if so, clearly in language I contradict myself, when I deny that the object implies a spatial or any relation. And, if all metaphors are to be pressed, then I, and I think all of us, in the end must keep silence. But the question surely is whether such a contradiction is more than formal. And the question is whether on some matters, in order to speak accurately, one has not to use metaphors which conflict with and correct each other. Believing this to be the case I repeat that the felt subject, in and for which the object exists, is not related to it and yet is experienced with it.

The object in self-consciousness (for it is better to take that stage at once) is two concrete terms in relation with each other. The whole of it consists in content, in presented elements more or less qualified and extended by thought. What the content is on each side is not here my concern. My concern is to deny that this whole "object" is related to the subject, and yet to assert that it is there for the subject and present in it and to it, and that the subject itself is also experienced.

The object-content is no longer in unbroken unity with the felt whole, but this breach itself is not, and cannot be, an object. It can become an object for reflexion; but, in becoming one, it generates a new experience and a fresh felt subject. The subject always is felt, and neither itself, nor its actual distinction from the object, can be got out and placed before it as an object. And there is no distinction here between the experience and what is experienced.[1] For the subject always is experienced because it is felt.

[1] For the outside observer, I may be asked, is there no distinction of this kind? Unquestionably there is, but *what* it is, is a matter for discussion. If the observer takes the experiencing subject to be more than what is at one time experienced, taken together and in connexion with its experienced past—he may possibly be right. But I must remind him that, if he assumes this, he is not *arguing* against any one. He is merely assuming without argument that he is unquestionably right and we are certainly wrong.

This view, briefly and, I must confess, obscurely indicated, does not of course remove all difficulties. But the difficulties it leaves are, I believe, not more than difficult. The elements we must deal with are at any rate contained in one world. While to make a passage in any sense from one world to another will remain, I venture to think, entirely impossible. And this view, again, is surely not *prima facie* absurd. It is hard for one, who like myself learnt and tried to teach it now many years ago, to judge on this point, but I would appeal to the reader. Take such an experience as ordinary desire. Beside pleasure and pain we have in this state, I presume, a relation of something, that is, to an idea in me. These terms we may certainly agree to call objects, and, in some cases and in one sense, we may agree also to say this of the relation between them. But, beside the above, is there nothing experienced in desire? I should say, yes, the whole experience is felt as one, and in that unity there is a background which is not an object. Desire, for me, is a felt whole containing terms and a relation, and pleasure and pain. But it contains beside an indefinite mass of the felt, to call which an object strikes my mind as even ludicrous. And I would ask the reader if this view is so irrational that it may safely be ignored, and that the opposite of it may, without any discussion, be assumed.

And my purpose in writing is not at present to explain and justify this view, but to emphasise the fact that it exists. And I would venture on a respectful remonstrance against approaching these questions with undiscussed alternatives. I do not suggest that Mr. Ward is not familiar with all that I have set down, or that in his own mind he is not fully prepared to deal with and dispose of it. But his readers, I think, are left without information. And the consequences, if so, must be injurious to the study of philosophy. When, for example, Mr. Ward assumes, or appears to assume, of unity and continuity, that, because they are not in separate presentations, they are in, or come from, a subject outside the experienced—he can hardly realise the nature of the shock he administers. For unity and continuity, many of us have learnt, are always ideal. They consist wholly in content, or else they are nothing. And they come from content, or else they do not come at all. And any assertion of the opposite, we are ready to contend, is inconsistent with itself. We may be mistaken doubtless in all this, and Mr. Ward doubtless is prepared to show us how our positive doctrine is wrong, and our negative criticism mistaken. And when he produces, as I hope he soon will produce, his doctrine about the Subject, and its true connexion with the change and sequence of phenomena, I trust he will take some account of our errors. I do not know what his doctrine will be, but it could hardly lose in clearness if it were defined against such criticism as, I presume, Hegel would have launched against it. And I do not say this for myself, who claim

no right to assistance, and whose mind is, I suppose, presumably ossified. But with regard to the younger men, some of whom are growing up more or less in the same general view, the case is different. And they will hardly be helped by a tacit assumption that their conclusions, positive and negative, are not worth discussing.

As for the Associationist, if he is not confuted, he surely never will be; and I am sure that, however much confuted, he will never be convinced. Our business is, I suppose, not to be troubled about that, but to try to gain a positive result which on all sides will bear criticism. And is it not almost time to say, Let the dead bury their dead? But, whether in metaphysics or in psychology, perhaps I hold the Associationist far cheaper, and differ from him more radically than Mr. Ward would think justifiable. For in principle Mr. Ward, I should say, has not broken with Associationism. The question of principle, to my mind, is about the nature of the universal in being and knowledge. But with that question Mr. Ward, as soon as he makes a serious attempt to work out his view of the identical (?) subject, will have to deal. Then I may find that these well-meant remarks have been superfluous, since any truth they may contain has been included and provided for. I offer them, notwithstanding, in the meantime, not as hostile criticism nor yet as positive doctrine. For I admit that there are difficulties attaching to the problem, which I cannot at present, to my mind, altogether remove. But I offer the above as some considerations, which ought not, in any case and by any view, to be quite ignored.

F. H. BRADLEY.

THE ORIGINAL DATUM OF SPACE-CONSCIOUSNESS.

Messrs. Ward and James have maintained that the only original element in our space-perceptions is "massiveness" or "extensity" and that distance and position arise from a subsequent elaboration of this primitive material, either as in Mr. Ward's opinion through its connexion with motor experiences, or as Mr. James seems to say simply through the mental processes of "discrimination, association, addition, multiplication and division, blending into generic images, substitution of similars, selective emphasis, and abstraction from uninteresting details".

The question which I have to propound is this: how much does the conception of extensity involve? It would appear that "extensity" means quantity of sensation: that this quantity or quality of more or less is due to the number of distinct sensations received by the various nerve-endings simultaneously excited, and consists of partial presentations differing not in visual or tactual quality, as the case may be, but in "local sign". And the presence of this variety of local signs gives a sensation the character of extensity or *merged plurality*. If I understand the theory aright extensity is not, as the language used by its exponents occasionally suggests, a new and special character of "sensation," but simply implies the *coexistence* of individually distinct sensations *identical* in sensuous quality. But a serious difficulty arises when we examine into the nature of those "local signs". It appears to us that whatever interpretation be given to the term they are utterly inadequate to furnish a foundation for the perception of position. Is the local sign continuum a system of mutual relations or simply a mass of unrelated[1] sensations or feelings?

Mr. Ward tells us in one place (*Encyc. Britannica*, art. "Psychology") that the "local signs" consist in the different relations of the parts of a massive presentation to the whole. If this is so, the local sign involves a relation of position more or less vaguely apprehended between the several parts. For since the whole is the sum of its parts the relation of each part to the whole gives us at once the relation of each part to each. Surely a theory which assumes thus much has not a very difficult task before it. And even granting that the local sign is such a relation we may well ask how it comes that the physiological peculiarities of nerve-endings can possibly give rise to the consciousness of a relation (other than that of likeness or difference).

But we do not think that Mr. Ward means this: indeed he repeatedly describes the local sign as merely *qualitative* and sometimes refers to it as "local colour". Mr. James too is quite clear on this point: he emphatically states over and over again

[1] That is except in the way of similarity and difference.

that the local sign is not a relation but a sensation which becomes the sign of a relation.

Good. The local sign is not a relation: but shall we fare any better if it is a quality of sensation? If the local sign continuum is a mass or multiplicity of coexistent sensations, surely nothing in the way of space-relation can be got out of these, manipulate them as you will. Mr. Ward himself admits this when he says: "The longer we reflect the more clearly we see that no combination or association of sensations varying only in intensity and quality, not even if motor presentations be added, will account for the space-element in our perceptions". If then the basis of this "extensity" which Mr. Ward invokes to help him on is only a further difference of quality (local quality this time), of what avail is this auxiliary?

So we see that if the "local sign" is a relation it includes all that is to be deduced; if it is a sensation the theory breaks down.

Perhaps however these objections will not directly dispose of the theory in the special form in which it is maintained by Prof. James. According to him the only original space relation is that of magnitude or extensity. The relation of position or distance is a feeling, *viz.*, the feeling of the line connecting two points. The two positions owe their duality to distinctness of local sign and their position to the "extensity" and local peculiarity of the feeling which connects them. "The feeling is the relation." I do not believe that Mr. Ward would acquiesce in this statement of the theory, but it is certainly a correct statement of Prof. James's account of space relation. But surely the question arises: "If the line is a feeling, what is the relation between this feeling and the two points which it connects?" Our reply of course would be: that of "besideness," of local contact, which we consider must be postulated as a primary datum. We do not see what answer would be open to Mr. James. We put forward in brief the following dilemma. The local sign is either given as a relation or as a quality. If the former, the relation of position must be original and the development theory is superfluous. If the latter, the theory fails.

It should be added that Mr. James himself appears to have been aware of the difficulty here raised. We do not understand his answer: he seems to be rather disposed to treat the difficulty after the manner of a certain great thinker who has preceded him, and throw it over as a final inexplicability. But he does say this much: "Even if position be not an intrinsic character of any one of those sensations we have called local signs, we must still admit that there is something about every one of them that stands for the potentiality of position and is the ground why the local sign when it gets placed at all gets placed here rather than there". (*Principles of Psychology*, vol. ii. p. 164 note.) I cannot, however, see that this is an answer to our objections.

E. Ford.

THE IMPORT OF CATEGORICAL PROPOSITIONS.

I should like to be allowed to make a few remarks on the view of the meaning of Categorical Propositions which is put forward by Mr. W. E. Johnson in an article on the Logical Calculus, in MIND for January, 1892.

Mr. Johnson says that "the usual logical analysis of the predicative-term into *copula* and *predicate-term* is not fundamental, and is in some respects particularly misleading" (p. 23). It seems to me, on the contrary, that this analysis (if we take care not to confound *Term* and *Term-name* [1]) is both enlightening and fundamental—that it goes to the root of the matter. And I say this because the analysis in question brings into prominence what I regard as the very essence of Categorical statements—namely, the reference (in affirmatives) of two terms to one object, in such a way as to indicate that the object (or group) pointed out by the one term has also the characteristics signified by the other—the proposition thus expressing an explicit analysis in synthesis, a *diversity* of characteristics in *one identical* object or group. This is possible only if each term is regarded as possessing denotation (or application) and at least a minimum of signification. The identity-in-diversity interpretation is wholly different from the "class-inclusion" interpretation, in which we are concerned with relations between classes, or between individuals and classes, and *not* between Subject and Predicate of the Proposition. *S is P* is the only really general formula for Categoricals; and if it means anything, it means that S and P have reference to *one* object, regarded as of such qualities that both S and P can be applied to it. Every Categorical *can* be put into this form; and every Categorical before it is converted *must* be put into this form. The identity-in-diversity interpretation of Categoricals seems to me to be as far as possible from "getting rid of the predicative element" (indeed I do not see how this can be done on any interpretation).

Mr. Johnson says that in the only case in which the copula has a real logical significance, *e.g.*, in such propositions as *Tully is Cicero* (1), *Courage is Valour* (2), *is* is a relative predication—(1) and (2) being logically on a level with *Brutus loves Cæsar* (3). From my point of view, however, the difference between (1) and (2) on the one hand, and (3) on the other, is considerable—since in (1) *Tully* and *Cicero* and in (2) *Courage* and *Valour* have identical application, and neither (1) nor (2) *can* be regarded (while (3) *may*) as expressing a relation between two distinct objects—(3) being thus capable of furnishing a very much larger number of Immediate Inferences than (1) or (2). But though I accept

[1] In All R is Q, All R is a *Term*, and R is a *Term-name*.

the identity-in-diversity interpretation, so far from wishing to give *Tully is identical with Cicero* as the explanation of *Tully is Cicero*, I should consider the *is-identical-with* as so tautological and superfluous as to be absurd—identity being necessarily implied by the copula *is*. I do not see why the copula should be stigmatised as "a merely verbal device"—in a certain sense, no doubt, all words are a verbal device; but I do not see that the copula is a device in a worse sense than other words.

I should quite agree with Mr. Johnson that "Subject and Predication are distinct categories"—as distinct as *above* and *below*, *concave* and *convex*, and as mutually involved—and the distinction between S and P in *S is P* is not obliterated even in Conversion; on the contrary, current thought and speech fully recognise and even emphasise it, obliging us to drop quantification before the Predicate and to insert it before the Subject (when we are using Class-names), regarding, *e.g.*, *Some Q is R* as the converse of *All R is Q;* and thus forcing the denotation (or application) aspect into prominence in the Subject, and the connotation (or signification) aspect in the Predicate.

I cannot accept Mr. Johnson's view that "the realm of Predications and the realm of Subjects are not . . . precisely analogous. *The former may exist without the latter*,[1] but not conversely." As far as I can see he does not advance any arguments which prove this view. He says indeed that "with respect to any subject whatever there must be *some* predications which can be joined with it, so that if some are denied there must be others which can be affirmed of it.[2] But we cannot say conversely with respect to any predication whatever, that there must be *some* subjects with which it may be joined. Hence after denying it of some subjects, there may be no other subjects of which it may be affirmed.[3] A subject is that of which something must be predi-

[1] The italics are mine.

[2] This appears to me to be evident without proof, and to amount merely to this, that everything has some characteristics.

[3] How can that be a *predication* which is not predicated and cannot be predicated, of anything? Every predication-term must imply some reference beyond itself; if it is not and cannot be predicated of anything, to *what* does it refer? Of course in all predication there is possibility of error; but it appears to me that error comes in *not* in implying reference to *some* subject, but in implying reference to some subject which is more or less wrongly characterised, *e.g.*, in referring to *one* subject attributes which should be divided among *two*, as in speaking of *a round-square*. Unless in any proposition *X is Y* there is an implication or postulate of some subject (of attributes) in which X and Y are co-inherent or combined, *what* is, or can it be, that is referred to? If X and Y have any force, they would, I suppose, be allowed to 'connote' the properties or characteristics X and Y, and a combination of properties X and Y can only occur in a subject of which both are attributes. Even if the speaker's object is merely to deny the occurrence of things which are XY, this can only be done by first *postulating* such things. It is plain that if I

cated. But a predication is not necessarily predicable of some subject."[1] If *Subject* means one of the parts into which a Categorical Proposition is analysable, then I understand 'Subject' to be a Relative Term of which the Correlative is Predicate (or Predication). And in this case, not only is a subject "that of which something must be predicable," but it is that of which something actually is predicated. Correspondingly, a Predicate or Predication would be something which *is* predicated of a Subject.

If *Subject* means something which has Attributes, then again it is strictly Relative, the Correlative Term being Attribute. And whether *Predication* means Attribute (Characteristic) or Attribution (Predicate)—and I don't know what else it can mean—it appears to me to be a strictly Relative Term. I cannot, therefore, admit that "a predication may exist in its own peculiar realm without ever being found to attach itself to any Subject". Nor do I see that this view is supported by the consideration (even if we admit it unreservedly) that "the negation of a *proposition* attaches itself to the predication". For when we deny a Predicate or Predication, we deny it *of a Subject*—just as when we affirm a Predication, we affirm it *of a Subject*. If the Subject by itself is "empty," the Predication by itself is "blind". But, moreover, it hardly seems that we *are* restricted to this mode of negating a proposition. In the ordinary E proposition, the negation is sometimes regarded as attaching to the Subject. *Tom is the tallest* might be negatived by *Dick is the tallest*—or *Socrates is a traitor* by *Not Socrates but Lycon*. I do not quite see why in this connexion common thought and usage should be appealed to, while in other places they are apparently ignored—as when it is said that a predication is not necessarily predicable of a Subject, or that *All X is Y* means *Every Subject is Y if X*. Further, if we apply to the proposition *Every Subject is Y if X* the propositional analysis by which it has itself been extracted out of *All X is Y*, we seem to be involved in the "infinite process of substitution" with which on p. 23 the Identity interpretation is reproached.

"The existence of a Subject," Mr. Johnson says, "is . . . a presupposition of significant judgment." So far, so good. But because (in his view) there may be predications which do not imply subjects, the proposition *Every X is Y* (for instance) must be

speak (or think) of XY's, XY's must 'exist' *somehow*, *in idea*, in my mind, otherwise the denial or affirmation of XY's would be alike unmeaning. And since they must thus *indisputably* in any case 'exist' *in idea*, it must be some other 'existence' which is postulated, whether for affirmation or denial.

[1] *Cf.* p. 29: "There remains always the stuff, substance, or matter on which the predications must hang". *Cf.* also p. 25: "The application of the name [a purely denotative single name] is to *one*—neither more nor less—namable object, whether this be subject or predication".

understood to mean *Every Subject is Y if X*—the 'existence' of Subjects, but not of Y's or X's, being implied. "Every Subject" means "*the aggregate of all individual subjects*,"[1] an "aggregate of individuals in the background ready to receive" connotations. (*Subject* is itself a predicative name,—*i.e.*, a name that implies characteristics, and that may be predicated.)

Must not the aggregate of Subjects of Attributes (unless limited in some arbitrary way) include *everything*, not excepting the Attributes? *How* is such an Aggregate defined or known? What does it mean? If it is defined by reference to 'existence,' it cannot be existence in the most general sense that is meant, but must be existence limited in some way—and we require to know in *what* way. Perhaps one way would be by reference to the names which our language supplies; and in as far as our Subjects and Predicates are or represent such names, the reference to this aggregate seems immediate.

But it might plausibly be maintained that the aggregate so determined is arbitrarily and unwarrantably limited—that Thought (not to mention 'Reality') may transcend all current (and even all possible) Language.

The point of the whole hypothesis appears to be a reconciliation of the admission that "the 'existence' of a subject is a presupposition of significant judgment" with the view that propositions of the form *All X is Y*, &c., do not imply the 'existence' of X (while, *e.g.*, *Some X is Y* does imply it).

It is noticeable that in admitting that for significant assertion there must be reference to a Subject, Mr. Johnson introduces a very important modification of the view of Dr. Venn and other logicians who prefer the "existential" interpretation of Categoricals.

With the extreme interest of the whole article, and the ability and originality by which it is marked, I am not now concerned; my object is merely to dispute a view regarding the import of propositions, which I hold to be erroneous. I think that Mr. Johnson has done for it the best that can be done, but I still find myself unable to accept it.

E. E. Constance Jones.

Miss Jones writes that "S is P . . . the only really general formula for categoricals . . . means that S and P have reference to *one* object, regarded as of such qualities that both S and P can be applied to it". There appears to me to be here the same antithesis which I have expressed by the words *Subject* and *Predication*, but which Miss Jones expresses by the terms *object* and *quality*. Miss Jones' letters S and P contain in their signification certain characteristics which, being diverse, constitute *two* predications. The *one* object to which these diverse character-

[1] Here *Subjects* = Subjects of Attributes.

istics are applied, I call a *subject*. The difference, then, between her view and mine would appear to be that, whereas I hold that the simplest form of proposition involves the reference of a *single* predication to a subject (*i.e.*, a subject-thing, not a subject-word), Miss Jones holds that every proposition involves the application of a diversity of predications. Using Miss Jones' phraseology I would maintain that a proposition is possible, which means "that P has reference to an object, regarded as of such a quality that P can be applied to it": or more briefly, "the simplest judgment is the reference of a predicate P to a subject-thing". My view will be brought out by reference to a further statement of Miss Jones', *viz.*: "It is plain that if I speak (or think) of Xy's, Xy's must exist *somehow* in idea in my mind". As I understand this statement it expresses exactly my view. For this being so, the *proposition* "Xy's exist in my mind" is non-significant as a judgment; every significant judgment must refer to a kind of existence *other* than an existence in my mind; and hence a predication is not necessarily predicable of some subject, *i.e.*, of some existence other than an existence in my mind. My contention is that the 'subject-thing' is not "in my mind" in the same sense that the predication is necessarily "in my mind". Hence when Miss Jones urges "that in the process by which 'All X is Y' is interpreted, we seem to be involved in the infinite process of substitution," I reply that the form "Every Subject-thing is Y if X" cannot be further resolved, because whereas X and Y are predication-terms, "the subject-thing" is *not* a predication-term. Subject and Predication belong to different categories in a sense which *cannot* be applied to above and below, or to concave and convex. Miss Jones again urges (in a parenthesis) that "Subject is itself a predicative name, *i.e.*, a name that implies characteristics and that may be predicated". My answer is that, if there is a difficulty here, I do not see that Miss Jones' own analysis of the proposition avoids the difficulty. The word "object" is a predicative name: what characteristic then is connoted by this name when Miss Jones writes "S and P have reference to one *object*"?

There is one minor point in Miss Jones' criticism to which I ought to refer. Miss Jones says, "When we deny a predication we deny it of a subject, just as when we *affirm* a predication we affirm it of a subject". This is certainly my view; but it does not follow that when we can *apply a meaning* to a predication-word, that we thereby *affirm* it of a subject. Moreover, since we can in judgment either affirm it or deny it of a subject, why is it not possible to deny it of *all* subjects? The illustrations given by Miss Jones in this connexion do not seem to me to be relevant; for the pairs of propositions: "Tom is the tallest," "Dick is the tallest," and "Socrates is a traitor," "Lycon is a traitor," are not contradictory but contrary pairs.

W. E. Johnson.

VI.—CRITICAL NOTICES.

Eine neue Darstellung der Leibnizischen Monadenlehre, auf Grund der Quellen. Von EDUARD DILLMANN. Leipzig: Reisland, 1891. Pp. x., 525.

"The time has come," wrote Schelling nearly a century ago, "to rehabilitate the philosophy of Leibniz. His mind disdained the fetters of the school: no wonder that he has survived amongst us only in a few kindred minds, and with the rest has long become a stranger. In him was that universal *mind of the world* which reveals itself in the most various forms and spreads abroad life wherever it approaches. Doubly unendurable, therefore, is it, when people claim that only now are we finding the right words for his philosophy, or when the Kantian School foists upon him its inventions,[1] and makes him say the very opposite of what he taught. Nothing could be further from Leibniz than the speculative chimera of a world of *things*-in-themselves, which, though no mind perceives or apprehends it, yet operates upon us and produces all ideas in us. The principle he started from was 'that the ideas of external things sprung up in the soul, in virtue of its own laws, *as in a private world*,—as if nothing but God (the infinite) and the soul (the intuition of the infinite) were to the fore'. In his latest writings he continued to maintain the utter impossibility of an external cause acting upon the mental interior, —to maintain, therefore, that all alterations and vicissitude of perceptions and ideas in a mind can only proceed from an internal principle. When Leibniz said this, he spoke to philosophers. Now-a-days people have forced their way into philosophic life who can appreciate and understand anything but philosophy. When the statement is made, therefore, that no idea can arise in us through operation from without, there is no end to the astonishment. It is now regarded as philosophic to believe that the monads have windows, by which things can step in and out."

Apparently the time which Schelling anticipated was to be much longer delayed. The generation that followed 1797 was too much preoccupied by its own creative work to leave time for building sepulchres to the prophets. Still less was rehabilitation likely during the philosophic *débacle* when the converging hosts of scientific specialism and political doctrinairism crushed the feeble epigoni who tried to live on the repute which the great days of speculation had left them. The few who survived the crash that befel philosophy in the middle of the century sought a *modus vivendi* with the dominant powers, and consoled themselves

[1] Kant himself began the mischief by his alarming and rather indefinite charge that 'Leibniz intellectualised phenomena'.

with the surrogate of Kant-philology till the tyranny was overpast. But whatever risk there be of the study of Kant leading off into the bogs and wastes of verbal criticism and the immense misery of philological *raisonnement*, it has always the merit of forcing a capable mind to go beyond itself. Such a mind will either go forward to the thinkers whom Kant awakened and who carried his morning into full day,—or go backward to that earlier day which preceded the great dogmatic slumber of the eighteenth century—to those thinkers in the close of the seventeenth century whose best work Kant's harsh dicta had buried under an undeserved obloquy. In the former direction the influence of Schopenhauer has been largely for good. His ideas, long dormant, at last roused the tone of philosophic thought from its scholastic or professorial level to a higher note of speculative interest: unwittingly, indeed, he kept alive the influence of those post-Kantian giants whom he so loudly decried, though he was in reality their fellow-worker. And Von Hartmann, always stimulating and progressive, has still more effectively helped to expand the conception of philosophy, and to rescue it from inertia and degradation. The ignorance—to call it by no severer name—which even intelligent teachers of philosophy in Germany show of the work done between 1792 and 1827—which lets them quote an alleged dictum of Fichte or Schelling as the non-Orientalist quotes an inaccessible treatise of the Vedanta, and makes them do again tentatively and with self-admiration what was well done already—this ignorance is slightly diminishing. It is instructive, *e.g.*, to note the progress which an acute and fair-minded writer like Professor Paulsen has made in this matter during the few years that have elapsed between his "Ethics" and his "Introduction to Philosophy".

Of the greater pre-Kantian thinkers Leibniz has received less than his fair share of research. The literary revival which was contemporaneous with the Kantian Criticisms found itself most attracted by Spinoza: Goethe, in particular, deriving (in his own judgment) from the *Natura seu Deus* of Spinoza a creed of self-restrained and self-developed individualism which he might have —at least as truly—attributed to the philosopher of Hanover. Yet German patriotism has not been slack to gather the vast harvest which Leibniz's literary remains offer to the industrious. Circumstances have, however, made the task of reconstituting the *disjecta membra* more than usually tedious. The most definite and original statement of his characteristic doctrines was long to be sought for in unedited letters and occasional papers,—essays in periodicals, and summaries made to gratify princely curiosity or to invite scholarly examination; and these frequently bear on them the stamp of obliquity and accidentality incident to their origin. The *Nouveaux Essais*—a section-by-section summary and commentary of Locke's Essay—did not appear till 1765, when they were included in Raspe's collections of his works. The *Monadologie*—perhaps the most cited of all his works—did

not appear in its original French before Erdmann's publication of the *Opera Philosophica* in 1840.[1] It is on that excellent compilation that all the recent accounts of Leibniz's philosophy have been professedly founded. But some important additions were made by Grotefend in 1846,—notably including that '*petit discours de métaphysique*' (dated 1686) which contains one of the earliest and best statements of his fundamental ideas.

In 1890 a new edition, in seven vols., of the *Philosophische Schriften* by Gerhardt was at length completed. It is on the materials supplied by these handsome volumes that the work under review, 'A New Exposition of the Leibnitian Monadology, based on the original Sources,' by Dillmann, has been put together. The book sets before itself a double task. In a large part of the text and in a series of lengthy footnotes it contains a serious and detailed indictment of the accuracy of the accounts given of Leibniz by Zeller in his *Deutsche Philosophie* (1873) and by Fischer in his *Neuere Philosophie*, ii. (latest ed. 1888). Zeller and Fischer in the main, however, only figure as specimens of the general or conventional interpretation: Zeller perhaps representing the more superficial, but at the same time more conscientious historian of no special philosophical penetration, while Fischer stands for the imaginative reconstructor whose picture gains symmetry at the expense, occasionally, of authenticity. But, besides this, Dillmann aims at giving an exposition of Leibnitian monadology which shall show the genuine features of the system and demonstrate the groundlessness of the charge that it is inherently inconsistent. For, as Hegel said long ago, at first sight 'the Leibnitian system looks less like a philosophical system than a hypothesis as regards the ultimate nature of the world,—like arbitrary statements uttered in mere succession,—a philosophical romance,' and 'you do not properly appreciate it till you see what he thereby sought to avoid'.

The book labours under the disadvantage of being too prolix for a pamphlet, and too polemical for an exposition. Nor does the writer favourably engage the reader by his literary art. His utterance is often laboured, involved, and fails to come to a sharp point. He repeats his issues with insistence more emphatic than luminous, and puzzles the reader by the want of terse terms to distinguish the view he advocates from the views he condemns: and he is suspiciously ample in his pronouncements of one interpretation to be palpably clear, and another to be *grundfalsch*. Yet with all these drawbacks his book formulates a grave list of mistakes in the current representation of the Leibnitian theory, and does much to vindicate for its real doctrines a character of entire reasonableness.

[1] Convenient texts both of the *Monadologie* and of the First Book of the *Nouveaux Essais* have been edited by E. Boutroux, provided with *ample introductions and notes* for the use of students (Paris: Delagrave).

According to Dillmann (p. 18) 'the expositions of Leibniz up to the present day are not so much a work of impartial study of the sources as a product of tradition,' or of a study so superficial and so misled by false conceptions that it never really reached the simple truth (p. 386). The genuine philosophy of Leibniz is still, he urges, a secret: Leibniz himself has been a unique specimen of the misunderstood philosopher, both in his lifetime and amongst posterity. His radical problem—'May not mechanism, in spite of the justification of the mechanical explanation of all particular physical phenomena, be itself of metaphysical origin, and may not the principles of body itself belong to the metaphysical sphere?'—is declared to be one 'so alien to the ordinary mind that in the whole history of philosophy up to the present day it has never been proposed except by Leibniz, never by any other philosopher' (p. 288). A sweeping remark which it would need a violent ingenuity to verify,—which suggests the *Homo unius libri*, and receives some light from the fact—rather a refreshing sign in these days—that the very names of Kant and his successors never occur in these pages.

If we ask how this persistent misconception of a philosopher's meaning can be accounted for, the answer given by Dillmann is that the expositors have founded their account upon the *Monadologie* of 1714, instead of drawing it from an impartial and comprehensive examination of all relevant documents, particularly those of the earlier period, and above all, the writings which date from about the year 1686, when the Monad-theory had assumed its definite form. For, says Dillmann, 'the *Monadologie* is nothing more than a solitary attempt in which Leibniz seized the opportunity of trying to present, as an *a priori* deduction from mere concepts, those convictions which he had gained by an analysis of experience and supported everywhere else by experimental arguments,—an attempt which of course can never be neglected, but cannot for us be authoritative' (p. 194). With the exception of a few methodological essays and fragments, therefore, the whole of the seven volumes have been ransacked to supply an ample store of citations (always, by the way, rendered into German,[1] whatever be the original language) and to lay an adequate foundation for a sound exposition. Sometimes—and with reason—it is pointed out that Leibniz, to justify some position, uses an argument different from what really led him to its adoption. But upon the whole the method is to treat each section of the doctrine in close dependence on the evidence of the texts so as to make each contribute towards corroborating the conclu-

[1] Of course some renderings must be at best a *pis aller*: *e.g.*, *Vorstellung* for '*perception*'. The translation seems generally accurate, though naturally taking liberties in the omission of clauses. One mistake occurs, *e.g.*, p. 484, where instead of *die Stad eines Hofes* it should be *von einem Hofe aus* (la ville d'une cour).

sions that had on other grounds been elsewhere arrived at. But though it is well to call attention to the undesigned consilience of independent lines of inquiry, it is possible to go too far in ignoring the disturbing influence of the necessity apparently laid upon Leibniz to make his doctrine acceptable to all sorts and conditions of men and women, and particularly to show it as the faithful ally of orthodox religion, catholic theology, and established ethics. Zeller is hardly to be censured for describing the correspondence of Des Bosses (1706-16) as 'accommodation to a foreign standpoint'. Such accommodation, with its yearning for sympathy and intelligence, is only a too general weakness of Leibniz. But with Des Bosses he particularly indulges in a hypothetical acceptance of his correspondent's theories, with the scholastic perplexities of the *vinculum substantiale*, and confesses that the problem thus presented is new to him.[1]

The book is drawn up in two divisions. The first deals with the fundamental question of the Monad as the explanation of certain difficulties arising in the analysis of the mechanical concepts of body, extension, force, movement, space and time, and with the essential monadic quality or function of 'representation'. The second treats of the relations of the Monads to each other, to the universe, and to God,—with the theory of the pre-established harmony, of determinism and teleology, and with the principles of Leibnitian theology. But in the first part stands a long chapter (pp. 196-243) on the historical position of Leibniz, showing that the Monadology is inadequately treated when it is conceived as a mere movement of development and correction in the reigning Cartesianism, or as a mere reaction against the all-engrossing Pantheism of Spinoza. On the latter topic he protests against the exaggerated language of L. Stein, who, led away by the philologist's zeal for a new-discovered text, had over-stated both the attraction of Spinoza for Leibniz and his subsequent recoil. It is easy to show that the essentials (apart from the form) of the Leibnitian creed were fixed as early as 1671.[2] And it might have been helpful, on the other hand, to point out how much of the difference of Leibniz from Spinoza is due to the contrast between a regressive and a synthetic method: to call attention to their identity in ethical end, and to the way in which the conception of mind as *idea corporis* is translated by Leibniz into the representative units mirroring the universe through their respective bodies. Dillmann is clearly right in following Leibniz's own assertion that the underlying motive of the Monadology was to find a conciliation between the mechanical or corpuscular theory rampant in the new schools, and the teleology and idealism marking the Platonising philosophy of Christendom.

[1] Gerhardt, ii. 499. *Hoc argumentum de phænomenis ad realitatem evehendis, non nisi per occasionem tuarum literarum tractavi.*

[2] *Ibid.*, i. pp. 49-64; and iv. 221.

A genetic account of it therefore has to show how it grew up by a regress from the mathematical conception of the universe: *Videbam geometriam gradum struere ad philosophian de motu, et philosophian de motu ad scientiam de mente.* (Gerhardt, i. 68.)

Dillmann's earlier chapters accordingly show how Leibniz, by the conclusions which his persistent analysis of current conceptions of body, movement and resistance forced upon him, supposed himself obliged to postulate "monads" to save the reality which was not adequately recognised by these conceptions as they stood. That every special phenomenon in nature is explained and explainable in terms of mathematico-mechanics, and that no other understanding of material things is possible—is for him an undisputed fact (p. 195). Granting this, he argues, first, that body, movement and resistance themselves are, as we conceive them and deal with them, unreal and mere 'phenomena'—a phantasmagoria, consistent only in its relations and connexions. Unless on certain assumptions which the current theory ignores, a thorough-going analysis of body—its 'parts-out-of-parts,' as an aggregate of alleged atoms—pulverises it into non-entity. The atomist, obliged to admit the illusoriness in gross masses, thinks he has something real in his molecules and ultimate 'plena' or solids; Leibniz dispels his illogical conceit, and shows that his alleged limit to division is an arbitrary fiction. By *this* road there is no path to reality; and *ex nihilo* (in the parts) *fit nihil* (in the totals). For Leibniz, as Dillmann labours to point out (p. 64), body is *not* the phenomenon (= appearance) of a *tertium quid*, something behind or beneath it, and which is represented to the mind through it:—not the phenomenon of an unknowable *Ding-an-sich*. It is here that the ordinary interpreter of Leibniz goes astray, and speaks, *e.g.*, Zeller, of the monads as the 'ultimate ingredients' or 'original elements,' immaterial in their nature, which make up bodily things (p. 107)—as if the monads were a kind—an immaterial kind—of atoms. Really 'atoms' and 'monads' are wide as the poles asunder. The 'atom' is an utterly negative entity, indivisible, impenetrable, excluding from it all difference and variety: the 'monad' includes a world,—is essentially a *unity* of different elements, a synthesis of infinite complexity,—a true potency and sure promise of all reality.[1]

Body, to Leibniz, is not the incoming of an external,—and always external, something, a revelation of the unknowable *to* us: but 'body *itself* is represented in us': 'we ourselves are representations of bodies, and the idea of a body, therefore, is given in the same act with ourselves, with our very being, and has its origin in it alone: the idea not being evoked in us by external substances, but being our own spontaneous production'

[1] Teichmüller's criticisms of Leibniz are vitiated by this mistake between 'Monad' and 'Atom' (*Wirkliche und Scheinbare Welt.*, p. 138, &c.).

(p. 65). Casually heard, these words suggest perhaps Berkeley's reduction of matter to ideas: but with an important difference. For, in the first place, our world of thing and event is the production of our own monadic nature,—and not, in the first instance, a puppet-show due to the hands of the 'governing spirit'; and secondly, our 'monad' is but one amongst an infinite variety of others,—aspects, like ours; and, like ours, persistent in the infinite activity of God. Leibniz begins with *us*. We—each of us—have in our 'souls' the typical monad or unity: the '*Fester Halt*' which gives the details of the universe reality and coherence, permanent objectivity:—but which does more than merely unify, because it—under God—'expresses' in these details its own nature, and thus, in its measure and with its limitations, mirrors forth that universe which it 'involves' concentrated and *raccourci*. But what it 'represents' is not an outward object's intruding image, to let in which it has neither *trous ni portes*; it does and can only 'evolve' or 'develop' the consequences in its own monadic (*quasi*-mental) force: and the perpetual miracle of divine operation is that this 'development' is at once in general harmony with all other developments in the universe, and at the same time 'feels' or 'perceives' them with greater or less inadequacy and indistinctness.

The attributes of the monad are, as Dillmann's earlier chapters seek to show, exactly such as are postulated to raise to substantial reality and (what a modern philosophy would call) concrete objectivity the merely phenomenal, abstract, and partial conception of body, motion and resistance. As against the discreteness of bodily parts—this mere *tas de pierres* which body is, and where each single stone again dissolves into nothing before our critical inspection—the characteristic of the true substance or reality is *unity*: hence the proper name (*Unité, Monas*) for the Leibnitian principle. Another point emerges if we note that 'extension' is an inadequate conception with its correlative suppressed: that, taken alone, it cannot constitute *un être accompli*: that there must be something, *of which* the diffusion or repetition constitute extension: and that motion, in like manner (p. 99), presupposes something permanent and substantial of which it is a 'mode' or 'accident'. Thus the 'monad' must have the further character of a 'force,' or 'power': an 'implanted principle of change and persistence'—something 'midway between the power and the action,' 'enveloping an effort, an act': 'involving' an effort, and that without external stimulus. To get a clear idea of this Leibnitian '*principle of force*, or *force primitive*'—to distinguish it as one and permanent from the *force mouvante*, or phenomenon of change in place and time, to unify the contradiction in its being at once a power and a tendency—a power which needs no help or solicitation *ut in actum transferatur*—is a chief difficulty in Leibniz. And the source of the difficulty is that force here, like substance in Spinoza, is really a higher category than its name

would indicate, and must therefore be taken *sensu eminentiori*, on a higher plane—something not imaginable, but intelligible, not physical, but metaphysical. In other words, we must equate 'force' with 'principle of unity,' and remember that 'unity' here is no mere logical link, but the *idée positive*, the power and reality of substance, an 'Entelechy': it is the force of a 'soul,' of an *Ego aut simile*, and is therefore *velut perceptio et appetitus*. 'Primitive forces,' says Leibniz, 'I consider to be identical with the internal tendencies (*tendentiæ*) of substances, whereby, according to a certain law of their nature, they pass from perception to perception and harmonise together.' The force then is not mechanical energy, but psychical 'perceptions and appetitions': the only real actions are 'representation of phenomena with transition to new phenomena'. Other function, save to perceive *in unity*, and to tend or involve effort *in unity*, there are none in the Monad. If therefore it be said, as Dillmann says (p. 304), that 'the concept of Representation is the most important concept in the Leibnitian Monadology,' we must remember that representation is not merely perception, but appetitive tendency. It includes the dynamic or progressive element, no less than the principle of statical order: is an innate spring of development, no less than a reflecting mirror of the universe.

Besides the active or positive force in the Monad, there is, thirdly, and corresponding to the physical phenomena of resistance and inertia, a principle of 'passive force,' or of negation. Such a force is not, Dillmann reminds us (p. 155), to be taken as reaction—which, after all, is a kind of action—but as a purely limiting or negative condition, equivalent to the restriction expressed by the law of the persistence of force. It expresses the law that in every monad which represents body the active principle is an *actif borné*. Here appears the dualistic instinct which perplexes the prosperous course of so many a philosophy. Every monad—except the monad of monads, *i.e.*, absolute unity and absolute force—has in it an element of 'first matter' or 'primitive passive power'. Every monad or soul, in plainer language, has a body which is 'affected' to it: a body which 'belongs' to it, without however being 'attached to its essence'.[1] Substance (*i.e.*, Monad) is always united to an organic body—'endued with an organic body by the instrumentality of which it perceives and desires'. 'Every veritable substance is composed of an immaterial soul and an organic body: and it is the compound of these two that we call *unum per se*.' Such at least is the law of the *physical* universe. So close, moreover, is the union of the

[1] This is the only excuse for Kuno Fischer's statement (Leibniz, p. 374) that 'Body and soul are the two forces which constitute the essence of each monad: the monad is an animate body'. Monad is never so used by Leibniz. Body is rather an 'invariable accident' than part of the essence of the monad.

two elements in this 'organism' that death cannot dissociate it: not merely the *anima*, but the *animal*, is imperishable—in the natural dispensation. Every body, wrote Leibniz as early as 1671, has a 'substantial kernel,' an 'inner body,' which as a perpetual *punctum saliens* survives unimpaired even in the ashes of the fire-consumed body, and carries on the soul of which it is the 'vehicle'.

Here lies a whole world of questions, interesting in themselves and cardinal to the philosophy of Leibniz; of which Dillmann's book supplies no connected treatment, but only touches on incidentally. How are we to reconcile the statement that 'finite substances never exist utterly separate from body' with such a passage as this: *Non opus est poni aliquid extra omnes monadas?* or again how there can be a harmony between soul and body if body is only a phenomenon, and a representation by and in soul? So far the answer is not far to seek. We are told, *e.g.*, that body is only 'the aggregation of the other substances constituting our *organs*,' or is 'all that in the mass or aggregate of substances takes place according to mechanical laws,' or, we may even say that the distinction between soul and body is a popular expression for the wide interval of dignity and power that separates the 'dominant monad' from the subordinate or organic monads belonging to it.

It would be vain within the limits of this article to consider in detail the questions into which these doctrines issue. There is first of all their bearing upon what we may term 'physical religion,' or on that materialistic theosophy and psychology which vends its drugs under the titles of 'spiritualism' or 'esoteric Buddhism'. But, for Leibniz, though in his dealings with transubstantiation he comes perilously near this abyss, these questions are of somewhat distant and problematic importance. There is more present-day importance in a second order of problem, relating to the theory of development, the persistence of the organism, and the relation of inner and outer forces in the play of evolution. Nor of physical evolution alone, but of intellectual and moral development in humanity. The questions of the limits of variation, the admissibility and transmissibility of acquired characters, are hardly so clearly formulated at present that they can be said to need no light from the theory of the pre-determined harmony and the law of continuity. Yet there is still a third region in which the Leibnitian ideas have not been fully set in their full importance, at least, by Dillman; and that is the theory which, in one of its aspects, recognises the function of 'little' or 'insensible' perceptions. The psychological theorem is of course only one aspect of a general biological law, and that again of a mathematical principle which connects with Leibniz's work in the regions of the integral and differential calculus. It must be remembered that the faculty-psychology of the eighteenth century, which Kant found and apparently sanctioned, has no place in the mental philosophy of Hobbes, Spinoza, or Leibniz.

A century before Herbart arose, they set aside and condemned the hypostatisation of mental forces under the influence of 'universal' names, which served only to obliterate from view the individualised and concrete operations. They differed indeed in the way they dealt with the organisation of these individualised 'little' ideas or volitions into unity; and probably they all occasionally lapsed into vulgar standpoints inconsistent with their general theory. But while they diverge in estimating the relation of the final unity to the multiplicity, they all hold with a true scientific grasp that the final or supreme unity is an empty 'form' if it has not been realised in constituent multiples, if it is not, as Bacon says, *determinata in materia*. This is especially illustrated in the case of will, as partly shown by Dillmann in his chapter on the 'Freedom of the Substances' (p. 41 *sqq.*). The Will, according to Leibniz, is no arbitrary sovereign whose fiat introduces decision amid a previous indifference; for in the teeming world of the Leibnitian monad there is no indifference, but everywhere determination in surcharged being to set free its scope of action. Nor on the other hand is the will the mere resultant in the struggle for life between the various appetites and inclinations of the different sub-monads, as Hobbes would *seem* to hold, the merely factual or chance victor in the battle of velleities. But in the will, as the act of the organic 'substance,' the 'dominant monad' represents in unity and conjoins in 'compossible' harmony the appetition of its subjacent organs: being thus in the perfect or ideal organism the 'absolute' unity or 'absolute' sovereignty,—*absolute*, because including, realising, and focusing the relative or partial elements, but not absolute if absolute mean arbitrary. When Leibniz asserts, as he does again and again, that the inclination, appetite, or motive of good, determines the will, *inclinando non necessitando*, Dillmann rightly rejects the interpretation of this, which would make him mean that the will is only stimulated and enticed, not actually constrained by motives. So long as 'there are no doors or windows in the monad,' this intrusion of compulsion is impossible. Monadic (and therefore spiritual) development is for Leibniz automatic, *i.e.*, autonomous, from within according to innate law, in its career absolutely certain and infallible for any one who can read in the germ-monad all the future with which it is pregnant, but not describable—except through abuse of a word which connotes logical impossibility—as necessitated. For Leibniz the necessary world is the world of abstract or eternal truths: whereas the realm of actual life and event is governed by the principle of determining reason, the principle of the good, or the better, or the best.

With the same meaning is God described by Leibniz an absolute monarch. Equally with the *Deus* of Spinoza, it is His character, *Sich in Natur, Natur in sich zu hegen*. He also has no 'liberty of indifference'. But even in a higher sense than that in which the 'dominant monad' in the organism unites the rest,

does the 'monad of monads' represent in this unity and force (*i.e.*, as power, intelligence, and goodness) all the monads in their infinite variety. individuality, and spontaneity. For *in Him* they live and move: from Him they perpetually emanate,—'born so to say by the continual fulgurations of the divinity, from moment to moment'. Yet in Him they *act* and *live* and *move:* as Dillmann puts it (p. 465): 'to say that God creates the monads does not mean that God has manipulated things into existence, but that He *expresses* the very doing and realisation of the substances'. If by an abstract view He be at times described as the inventor and architect of the material universe, or as king and father of the intelligent 'substances',—if minds are said to be the citizens of the most perfect monarchy, we must remember that all these analogies are not to be taken *sensu strictiori:* but as expressions meant to emphasise the actuality of the divine life, as well as that potentiality which Spinoza, save inferentially in his identification of divine love with man's to God, regards as the only place assignable to the Absolute. Even if we do not accept Dillmann's view that 'the monadology is and remains in every respect at once a profounder and more important system than that of Spinoza (p. 475), his argument may serve to show they are not so opposed as Leibniz supposed or the world takes for granted.

W. Wallace.

Beiträge zur experimentellen Psychologie. Von H. Münsterberg. Freiburg, i. B.: J. C. B. Mohr, 1892. Heft 4. Pp. 238.

The first three parts of these *Contributions* appeared in 1889-1890. In his preface to them, the author expressed the hope that some three parts would appear yearly, and stated that sufficient experimental matter to fill four had already been accumulated. In the present publication, which comprises ten short studies, are contained two or three of the researches there mentioned; the rest are either independent investigations or connected with previous work. One would be tempted to ascribe the delay in the appearance of Heft 4 to the rather damnatory criticism which its predecessors have undergone, were it not that, with two exceptions (of which more presently) Prof. Müller's review is left entirely unnoticed.

The first paper—*Studien zur Associationslehre*—is divided into five sections, each dealing with a special point in the psychology of association. (1) *Mediate Association.* In the course of experiments on the associative train of ideas, Dr. Scripture was led to the belief that "the members of an ideational series need not all be conscious" (*P. S.*, vii. 88). Wundt, who accepted the term "mediate association," and employed it to explain Herbart's *frei steigende Vorstellungen*, was careful to point out that the so-called "unconscious" ideas must always be "darkly conscious"; so

that there is nothing in the process to separate it off from the ordinary types of association (*P. S.*, vii. 360, 361). Prof. Münsterberg, who set out with the assumption of the correctness of Dr. Scripture's results, found them in no case confirmed. I have pointed out in MIND (1892, p. 227) that the interpretation of these results is not so certain as the writer assumed; and Dr. Münsterberg practically repeats this criticism (p. 7). As the matter stands, we have for association by unconscious members Dr. Scripture's very careful experiments; against it Wundt's *a priori* (!) objections, the possibility of another interpretation of the results, and Dr. Münsterberg's experiments (18 reagents, 7 of whom were chiefly employed: words and nonsense syllables, 600 experiments; and tones, 360; and taste, smell or colour stimuli, 560; Scripture's method, 300: practice?). (2) The author is concerned to show, in connexion with *Beiträge I.*, (*Willkürliche u. unwillkürliche Vorstellungsverbindung*), that "the external excitation does not arouse associations only when it is transformed into a conscious process, but there lies between external stimulation and conscious central process an unconscious stage, in which the play of augmentations and inhibitions, accelerations and retardations dependent on associative co-excitations, can be just as effective as in consciousness itself". The chronometrical proof was not accepted (MIND, 1891, p. 523; 1892, p. 397; *P. S.*, vi. 172 ff.; *Goett. gel. Anz.*, 1891, No. 11, p. 404). The new experimental method employed was the following: The observer sits before a curtained picture, at a suitable distance from it. A word is called, on which he must concentrate his attention. Two seconds later, the curtain is withdrawn; he has now to note if any part of the picture is seen before other parts, and to name this favoured part. Of 2000 experiments with two reagents, 617 were certain instances of such favouring of a special part, and this part was always associatively connected with the called word. If we admit the facts, without cavil, what does the statement mean, that "on the ground of associative moments a preference of certain objects of perception can precede the perception itself"? It surely only points to the working of associative expectation. That less than one-third of the experiments evinced this working is a proof that the method is not a very good one for its investigation. Expectation is inhibitive: we do not want the "*nicht bewusste Zwischenstufe*". (3) Under favourable circumstances of reproduction, the represented and the presented sensation can be shown to be psychologically (and therefore psychophysically) one and the same. A word is called; another word is shown, which the observer expects to be associatively connected with the first. This second word is read in the sense of the association, even when it differs considerably from the nearest associated visual complex (20-25 such unconnected words were shown per 100 experiments; 8-10 times the association would still be made). The letters, which the observer subjec-

tively added or altered, were reported as having been actually seen.[1] (4) *The "next-lying" association.* The constancy of associations has been emphasised. But the associative constellation is the unit, not the single idea.[2] Experiments show that, as was to be expected, the constancy found was due to the method of investigation used. But, on the constellation theory, also, there will be in certain cases "next-lying" association or associations; the "fringe" will be constant and constantly active, in these cases. The experiments on which the argument is based form part of an extended series, not yet fully worked over; the conditions of investigation are only given in outline. Scripture's general results were confirmed. (5) *Individual differences in the preference of forms of logical relation.* The reaction time of association points to the existence of great individual difference (Wundt, *Phys. Psych.*, ii. 316). The author uses the above-mentioned material for a statistical classification of associative types (*cf. P. P.*, ii. 383, 384), and finds three main "intellectual temperaments," with intermediate forms.

The second research[3] is headed "Chain-reactions". These were suggested by Mr. Galton's anthropometrical experiments, in which a number of persons joined hands, and each imparted a pressure stimulus to his neighbour. A methodological interest is claimed for them: "psychometry" is to free psychophysics from the schematic and barren "psychophysic methods". Now, plainly, there are grave objections to the chain-method: objections which apply to all "mass-experiments". The method violates some of the most important conditions of psychological investigation: absence of distraction, &c.; while there are obvious sources of error in the technique. Dr. Münsterberg asserts that, in the simple chain-reaction, the latency-error of the electro-magnet is distributed over a large time, so that it practically disappears. What of the far larger variations determined by direction of the attention? Can they be con-

[1] Dr. Münsterberg's photographic shutter remained open for 0·02". This makes his results the more striking, as the time of exposure employed by Prof. Cattell in his experiments on the range of apperception was only 0·01" (*Phil. Stud.*, iii. p. 128).

[2] Such a theory as this of the "constellation" unit is, of course, not new. *Cf.*, *e.g.*, Maas, *Versuch*, 1797, § 18.

[3] Here occurs the first reference to Müller's critique. Dr. Münsterberg controlled his reactions (mostly over 500σ) by a hammer whose control-maximum was 169σ. This was criticised apparently on the erroneous assumption that the new pattern of the Hipp Chronoscope was used. The author used the old pattern, and put it out of activity by short-circuiting. In his delight at making the point against Müller, he now remarks: "Anybody can see that it is perfectly indifferent whether *no* current passes through the instrument for 150σ or for even 1000σ". But on Wundt's method there is no question of absolute interruption. *Cf.* Kuelpe and Kirschmann in *P. S.*, viii. p. 150.

trolled, even if the whole time is very accurately measured?[1] He says, again, that stimulus and movement are closely correlated, and that variation is possible. I can see no difference between the chain and the single form here—unless it is to the advantage of the latter. Lastly, he urges that individual differences are eliminated, clinching this by a somewhat unfortunate appeal to Stumpf. It would rather seem, that as chronometrical investigations become more exact, these much emphasised differences tend to disappear.

Experiments are reported on the movements of one of two or three fingers or other parts of the body in response to touch-stimuli; on the time-relations of cutaneous fusions; on the discrimination-time of cold and hot, when the heat varied intensively; on the choice-time of passive movements, varied in direction; on that of eye-measurements; and on that of colour-quality. To these is appended an account of the "serial" reaction. In the chain-reaction the same mental process is repeated in different individuals; in the serial form, co-ordinate mental processes are repeated, with the same reagent. Such processes are those of multiplication, of discrimination of polygons by number of angles, and of naming colours. I will not attempt to discuss these experiments in detail. They are only intended to illustrate the method, and the method seems very exceptionable. I am entirely in agreement with Prof. Münsterberg as regards the possibility of extension of chronometry to qualitative investigation (p. 68); but the present form of extension will scarcely, I think, find acceptance.

In the third place come *Gedächtnisstudien.* (1) Two propositions are maintained: that the psychophysical disposition to a movement only reaches a moderate intensity (even when the movement is automatic and impulsive) if different movements in response to the same stimulus have not been voluntarily practised; and that psychophysic excitations are propagated solely along the line of momentarily least resistance. The author forgets that the "current notion" of the discharge of a ganglion-cell along all paths open, in inverse proportion to the resistance offered by those paths, presupposes a certain intensity of the excitation. His experiments are interesting as showing how lightly the automatism, which we so lightly put on, sits on us, in unessential cases.[2] (2) *The influence of the time-interval on our*

[1] Dr. Münsterberg insists, here as in former passages, that the important thing in chronometrical results is their mutual relation, not their absolute value. But relative accuracy implies absolute accuracy. In the finger Similarity series (p. 49) the pair I.-II. follows the pair III.-V. on the ground of 55σ. This relation may be incorrect, if the absolute error in amounts of 3500σ is 50σ.

[2] I have failed to grasp Dr. Münsterberg's point here. He writes: "It is not true, that every idea awakes in us a number (*Fülle*) of associa-

memory of sensations. Two departments were investigated: sensations of (arm) movement, and measurement by the eye. The latter experiments will be published separately, by Herr Lewy. The former were obtained with Dr. Delabarre's apparatus (MIND, 1892, p. 140); the method was that of mean error—which, I imagine, is not one of the "schematic psychophysical methods, whose barrenness becomes every day more obvious".[1] The results are massed, quite regardlessly of the fact that a straight arm-movement of 50 cm. is qualitatively something very different from one of 5 cm.; indeed, in face of the direct statement that, for a short reagent, the longer movements were uncomfortable. The general result—not to be regarded as universally valid; for experiments of this kind must be made with circular, not rectilineal movements—is that "from the first second the movement seems to decrease in memory, reaches its minimum after 10″, and then gradually increases, being, as a rule, greater after 60″ than after 2″". The normal magnitude (5 to 50 cm.) is overestimated throughout.

Fourthly is asked: How does the content of a time-interval affect our immediate estimation of its magnitude?[2] I have already criticised severely the Time-sense research of Heft 2, of which the present study is a continuation. That the latter cannot claim to rank higher than its predecessor has been convincingly shown by Dr. Meumann; I need not enter on a discussion of it (*cf. Phil. Stud.*, viii. 3, pp. 441 ff.).

The fifth paper is headed: *Einfluss der Nervina auf die psychischen Leistungen.* It is of the nature of a preliminary communication. Experiments were made with excitants, narcotics and antipyretics. I think that such preliminary statements should be avoided, on principle. There is a very great temptation to found general laws upon them. Prof. Münsterberg declares that he does not wish to do this; but at the same time he applies his results to supplement those of Kraepelin. The psychological discussion will be published later (p. 145).

tions, and that then the right association is intensified and fixed by accessory factors". But, if the constellation is the associative unit (p. 26), should not the presentation of a single sense-impression call up its constellation, and the further course of association be determined by such accessory factors?

[1] P. 42. *Cf.* the method of the sixth investigation, pp. 147 ff.

[2] Prof. Müller and myself pointed out that the sensations of strain, the varying intensities of which are in one place (Heft 2) declared to form the basis of our time-measurement, are elsewhere (Heft 3) stated not to vary in intensity at all. It seems that we confused psychophysics, psychology, and epistemology. The proof will be forthcoming later. "Ich beschränke mich hier darauf, den Vorwurf eines inneren Widerspruches unbedingt zurueckzuweisen" (p. 91).

Vergleichung von Tondistanzen. The victory in the Stumpf-Wundt controversy is awarded to Stumpf; but the work of Lorenz is allowed to possess a definite value. The author seeks to amplify it by two methods: firstly, by three-tone experiments; and, secondly, by experiments with two tone-pairs, the first of the second pair being the variable. But—and this is the significant thing—he gets Lorenz' results by the very means which Lorenz found to be valueless! In both series of experiments the variable is raised or lowered regularly, in one direction. Lorenz tried this plan, and pronounced against it (*P. S.*, vi. 44). Dr. Münsterberg says that Lorenz' method "wirkt störend und verwirrend," without particularising the test to which he put it.

The results are beautifully regular: but they are just worthless, pending a thorough examination of method. It is most incredible that the writer should have overlooked this fact. That the method of mean gradations requires great care in the using is sufficiently plain from Prof. Angell's results (*P. S.*, vii. 468), which are not referred to by him.

Under the title *Groessenschaetzung* are communicated the results of experiments, in which an optical distance was translated into terms of "touch," by the execution (with closed eyes) of an arm-movement which was for consciousness equal to it. The investigation has reference to those recently published by G. Martius (*P. S.*, v. 601) and von Kries (*Beitr. z. Ps. u. Phys. d. Sinnesorg.*, 173). It has two main conclusions: that in arm-measurement the estimation of magnitude is always the resultant of movement-sensation and distance-sensation; and that the direct estimation of the size of objects in the field of vision is not influenced by their distance from the eye. I imagine that the phrase *Entfernungsempfindung* is Prof. James' "depth-sensation". There is an *auch* in the formulation of the first result, which seems to contradict the second,—where there is no question of the distance-sensation. The deviation from the law found by Martius may be ascribed partly to the fewness of these experiments, partly to the fact that Dr. Münsterberg used on the average smaller experimental magnitudes and smaller distances than those of Martius, partly to the disparity of the sensations compared, and the consequent uncertainty of the criterion. In themselves, the movement-experiments are by no means unexceptionable; the motion was again rectilineal. It is not said how the arm was held at half- and quarter-distance; *i.e.*, whether the hand was sunk to elbow-height, or kept at the same level throughout, with downward or outward elbow-movement. No comparison of visual with tactual space is instituted.

Mitbewegungen. Opinions are divided as to whether innervation of the extremities is naturally bilaterally symmetrical, or asymmetrical. J. Müller, Fechner, Damsch, James are quoted

for symmetry; Preyer, Baldwin,[1] Stumpf, Soltmann for asymmetry. Experiments were made as follows: A thick test-tube was held in either hand, and figures drawn with the bases upon a board. Nine observers took part in the research. Each experiment was carried out at least five times by at least six persons. As several observers were needed to control every experiment (the test-tubes made no mark), it is plain that suggestion may have played some part in the results. The inference from these is, that there does not exist an innate symmetrical co-ordination of the muscles of the extremities. The explanation is teleological: concomitant movements become, when the attention is taken from them, of a kind to suppress superfluous bodily movement,—movement which would waste muscular work. The extreme symmetry-theorist will, however, hardly be convinced; the asymmetrical practice of arm-movements is life-long, and might account for the experimental facts. No reference is made in the paper to Kuelpe's work.

The section headed "Psychophysiologisches" suggests a new psychophysical method. The activity of brain-centres varies with the circulation. If we alter the relations of circulation, we may be able to localise centres; we can supplement physiological experiment and pathological observation. The time occupied in repeating a row of numbers, in naming the number immediately following those called, and in forming an association, was determined for one observer, and with six different head-positions. Nothing is said of practice, mean variation, &c.: the greatest association-difference found was 148σ, the greatest number-difference (the two sets of experiments are massed) 105σ. As they stand, the results prove nothing for or against the method, and the whole discussion only constitutes a claim to priority of idea.

Lastly comes yet another preliminary note on Pleasure and Pain. Experiments on arm-movement showed that, in pleasure, movements of flexion are made too small, those of extension too large; while, if one's conscious content be unpleasantly toned, the reverse obtains. A review of biological, physiological and psychophysical facts leads to the formulation that "the reflexly excited extensions and flexions are the condition of those conscious processes which we call pleasure and unpleasantness".[2]

[1] Prof. Baldwin's position seems hardly represented fairly. He expressly mentions a tendency to symmetrical movement, in the paper quoted. He has recently suggested the application to the problem of the Gotch-Horsley electrical method (*Am. Journ. of Psych.*, v. 276). Experiments by that method are limited to animals: but the argument from analogy would be a strong one.

[2] Meynert found a support for his theory of feeling in the reflex movements of seizure, accompanying pleasure, and of retreat, accompanying pain. This fact might have been mentioned; though it is only fair to say that Münsterberg quotes very few authors in the present communication.

The addition of this muscle-sensation content to externally-excited sensations tones these sensations, pleasantly or unpleasantly.[1] The identification of feeling with sensation is explicit: "That sensation which arises from reflex extension-movements is that which we call pleasure". There follows a general defence of the muscle-sense psychology, with some remarks on its epistemological and logical implications. This will be better criticised when the promised "systematic Psychology" (p. 91) appears. As regards the pleasure-pain theory, which is plainly of the same character as Prof. James' theory of the Emotions, it seems to me that it breaks down very nearly as soon as applied; one cannot carry it through, *e.g.*, for the sense-pains.[2]

This volume of the *Beiträge* presents a marked surface difference from its predecessors. Its tone is not so dogmatic; most of the studies are preliminary or partial communications; half-a-dozen times is reiterated the phrase that the consideration of "principielle Fragen" is purposely postponed. But I cannot find that the difference is at all fundamental. There is the same readiness to accept and turn to theoretical account results obtained from any subject who offers himself; the same defective exposition of experimental methods; practice is paid no explicit attention; the views of orthodox psychophysics are derided or adopted, as best fits the new theories proposed; hypotheses are erected on the slenderest basis. To the former errors of technique is added that of massing experiments in Stumpf's way. If it seems somewhat unfair to judge severely of preliminary work, it must be remembered that such work, unless carried out and described with especial exactitude, may be exceedingly misleading. The best instance of this fact in the present volume is the paper on the influence of temporal content on the estimation of intervals. And those who have investigated the problems of association know how numerous are the sources of error there. Unless the "vorlaeufige Mittheilung" allows the reader to fully understand the method employed, and incites him to repeat the experiments, it is worse than useless. In any case, its employment as a form of scientific publication is to be deprecated.

E. B. TITCHENER.

Einleitung in die Philosophie. Von F. PAULSEN. Berlin: W. Hertz, 1892. Pp. xiii., 440.

In this work Dr. Paulsen has given us a valuable and interesting account of the position held by modern philosophy; more

[1] In the *Willenshandlung* (p. 137) we read: "Selbstverständlich kann bei der Frage nach dem materiellen Substrat von einem mechanischen Korrelat des Gefuehlstones nicht die Rede sein". But *cf. Beiträge*, i. pp. 25, 26.

[2] I had arrived at this conclusion from psychological considerations. That the hypothesis is psychophysically inadequate is shown by Lehmann. *Cf.* his *Hauptgesetze*, *e.g.*, pp. 112 *seq.*

especially, perhaps, of that particular philosophical view which he accepts for himself. He has not—as he tells us—written a history of Philosophy; nevertheless his method of illustrating and leading up to the various questions which arise involves an extensive historical treatment, both of philosophers and their systems, and of natural man in his spiritual development. His own position is clearly defined in the preface; he regards an idealistic monism as the true interpretation of the universe, and his criticisms of divergent theories are employed to clear the way for an unambiguous statement of this view to which he believes all philosophical thought to be tending.

The manner in which the subject is handled is largely determined by the fact that the author considers philosophy to have a vocation, one which modern philosophers have made especially their own. It arises out of the quarrel between Religion and Science, and the philosophical solution of the problem is to make it possible for us to accept unreservedly a completely scientific explanation of Nature without losing sight of the religious aspect of the universe. This view of the function of philosophy is further elaborated in the discussion of the position to be assigned to it in our scheme of knowledge. It is not a thing which we can take or leave at will, the dullest of us must have his philosophy, his way of looking at things; and our choice is only as to whether we will have mere patchwork, or a work of art. But granted the inevitableness of philosophy the question still remains as to its rank amongst our other possessions; is it only an inevitable illusion, or may we rank it with our recognised, authoritative knowledge? Its position is defined in the first place by distinguishing it from mythology and religion; these are the outcome of poetic faith, and of the human will striving after an unconscious ideal, while Philosophy is a conscious product of the understanding. Religion, again, is the expression of the will of the community, but Philosophy is the work of the individual endeavouring to realise his position, and it is to the conflict between individual freedom and collective thought that the antipathy between them is largely due. Another reason for the distrust with which Religion regards Philosophy is the neutral position which it holds with regard to Science; it stands midway between the two, and while offering a hand to each fulfils its function best by holding them apart. Faith on the one side, Knowledge on the other; and it is by confining Knowledge within its due limits that full scope is in future to be given to Faith. Here we strike the keynote of the work; to define the bounds within which scientific explanation is applicable, to vindicate its claim to full recognition within those bounds, and then to show that there still remains a wide field within which our speculations must be guided upon other principles; this, we take it, is the task which the author has set before him. In other words, he accepts Kant's attitude towards the problem, while bringing the results of another century's work and thought for its solution.

The position of Philosophy among the sciences is perhaps a little difficult to grasp. One essential characteristic which distinguishes it from all other knowledge is its indifference to external aims (der Philosoph ist reiner Betrachter der Dinge, er treibt kein Gewerbe und sucht keinen Gewinn), but something of this capacity for clear-eyed scrutiny must surely fail when we set before us an object of such grave import as the reconciliation between Religion and Science? Further, while in a way beyond all sciences, it must still (as in the days of "natural Philosophy") maintain a close connexion with them if it is not to float away once more in the mists of pure *a priori* speculation; and it is as the summary or content of all scientific knowledge (der Inbegriff aller wissenschaftlichen Erkenntniss) that we are now asked to conceive of it. This view is at first sight depressing; is Philosophy really nothing more than an accumulation of scientific smatterings? Dr. Paulsen does not allow this, for he reminds us that the sciences are not a mere aggregate; like the universe which they reflect they form an organic whole, and it is in their essential unity that they present their true content, and afford the material for philosophical thought. To give the author's illustration: Philosophy is the central fire which illuminates and gives life to all the sciences, but it is a fire which is kindled only by the sciences themselves, and must expire without them.

Dr. Paulsen's philosophy is contained in his division of the subject. Given his idealistic solution of the ontological problem, then the fact that he regards the questions raised by theology and cosmology as identical prepares us for his pantheistic interpretation of the universe. It is in the first and metaphysical part of the work that the chief interest centres; the second, to which is relegated the theory of Knowledge, occupies a comparatively insignificant position; while the third is a mere outline for the substance of which the reader is referred to the "System der Ethik".

In the Ontology the leading notes are the refutation of Materialism and the triumph of Idealism. We are first shown how the natural Dualism, which originally presents no difficulties, becomes inacceptable to the philosophic spirit, and gives rise to the various attempts either to find a connecting link between mind and matter, or to express the one in terms of the other, and then the materialistic view, in its endeavour to explain consciousness out of the physical facts which it regards as the only true existent, is briefly but sufficiently expounded preparatory to its refutation.

It is characteristic both of Dr. Paulsen's practical turn of mind, and of the principle of æsthetic selection which he finds in Philosophy, that at this point he devotes considerable space to deprecating the popular view that materialism in its practical consequences is prejudicial to morality. According to him it is the man who makes his Philosophy, and not his Philosophy which

makes the man. In proportion as lofty ideals and noble aims are felt to be practical forces determining a man's mode of life, or mere fictions of no avail against his lower impulses, will he naturally tend towards an idealistic or materialistic interpretation of reality, so that the theoretical view which he adopts will be the expression rather than the guide of his life. We find the same thought of the importance of subjective "values" for Philosophy more fully developed in the chapter on Causality and Finality.

In his crusade against Materialism Dr. Paulsen declines to avail himself—at any rate in the first instance—of the weapons provided by the modern Theory of Knowledge. True, he recognises their efficacy, but, "Materialism took its rise in the region of Metaphysic or Natural Philosophy" and it is with a touch of chivalry that he decides to fight it on its own ground. He reduces its formulæ to two: (i.) Conscious processes are the *effects* of physical processes. (ii.) Conscious processes *are*, in themselves and objectively considered, nothing but physical processes in the brain. Of these he rejects the latter as meaningless; it is a position which no one can maintain when reduced to a definite statement. Thought is not movement, but thought; and to call it movement is merely a misuse of language which does not admit of argument. Against the former he sets up the counter-proposition that there is no causal relation between physical and psychical processes, and in support of it he appeals to the fundamental presuppositions of Science itself. The whole fabric of knowledge which is based upon our belief in the continuity of physical processes is shaken if we introduce the category of causality to explain the relation between physical and psychical facts. "From a scientific point of view the transformation of movement or force into thought would be equivalent to the annihilation of energy, and to find an origin of movement in a purely mental fact would be for physics a creation out of nothing."

All that we can say, therefore, of the relation between physical and psychical events is that they accompany each other, and that experience teaches us to expect that certain physical or physiological processes will be found side by side with certain mental processes. This is the doctrine of Parallelism. Its full significance for metaphysics, and more especially for the metaphysics before us, depends upon the extent to which its application can be stretched. Does the assumption of a complete Parallelism within the limits of conscious life involve its assumption beyond those limits? In other words, are we to assume, not only that every psychical fact has its physical counterpart, but also that every physical fact has its psychical counterpart? The issue at stake is a large one, and Dr. Paulsen accepts unreservedly "the hypothesis of Spinoza and Fechner, the hypothesis of a universal Parallelism". His ground for doing so is another hypothesis, *i.e.*, that the same laws of continuity hold good in the spiritual

world as in the world of matter, that we may apply the category of causality as rigidly, and in the same sense, to psychical as to physical facts. To take his example : I hear the clock strike, and on the grounds already referred to I am debarred from saying that it is the vibration of molecules which causes my sensation ; but that sensation must have a cause, hence we must look for it in psychical processes accompanying the vibrations.

The imagination finds more satisfaction than in this argument when it passes to the considerations drawn from a review of organic life and consciousness in their gradual development from the inorganic and unconscious. At no point except in self-consciousness is any immediate knowledge of mental life given to us, but no one stops short at that immediate knowledge and refuses to believe in the conscious life of his neighbour. In going so far he has, however, overstepped the only obvious boundary. Once grant a conscious life of which you are not conscious, and it will be difficult to show any good reason why it should not be indefinitely extended. The strictly defined limits which once existed for us between the animal and the vegetable kingdoms have disappeared, and even the distinction between the organic and the inorganic appears as one rather of form than of matter. Hence it follows that if we are to construct the inner world by analogy with the outer it becomes a mere arbitrary assumption to stop short at any point in the continuous series, and say that thus far these outward manifestations have their inward counterpart, but that below they have none. No portion of matter—we are told —however minute, is without its own peculiar nature, none but is actuated by the forces of attraction and repulsion; how can we construct these except as analogous to our own attractions and repulsions, as accompanied, that is, by feelings of pleasure and pain ? Moreover, where are we to find the reality of matter if, as reflexion teaches us, what we see is but its appearance ? Self-consciousness convinces us that the reality of phenomenon is the inner life, and unless we are prepared to deny all reality to so-called inanimate matter, we must concede to it an inner life analogous to our own.

Thus we are called upon to accept a thorough-going hylozoism as the bridge between Knowledge and Belief ; Knowledge of our own twofold life as body and soul, and Belief in the corresponding twofold life of the universe. The construction of the inner life in its lower stages of development is based upon the " voluntaristische " Psychology. According to it the original and constant factor of psychical life is the will ; intelligence, including all perception and ideation, is merely the instrument which the will fashions for its use in its higher stages of development. Blind impulse—Trieb—is the primitive form of will, constituting at first the whole content of the inner life, and to the end predominant over all other elements, holding absolute sway over our memories, our interests, our thoughts themselves. Schopenhauer, of course,

plays a large part at this stage of the exposition, and the Philosophy of the unconscious is an indispensable adjunct. The argument that psychical life must be explained by cause and effect, and that a chain of physical causation implies a similar chain within, is again urged as a psychological ground for assuming unconscious mental processes—"potential perceptions"—to supply the missing links. But though Dr. Paulsen feels these to be indispensable he is inclined to compromise, and thinks that the difficulty may be met by the theory of sub-consciousness "das unbewusste ist nicht ein absolut Nichtbewusstes, sondern nur ein minder Bewusstes". It is this unconscious, or sub-conscious, inner life which forms the reality or inner life of the lower organisms and of inorganic matter, and just as the human frame surpasses as an organised system those of lower orders, so human self-consciousness surpasses "the disconnected and indifferent manifold" of the lower forms of psychical life.

This brings us to a discussion on the nature and constitution of the soul which aims at sweeping away "that remnant of an obsolete metaphysic," the soul as an ultimate reality, the subject of mental life. In psychical facts we have come to a knowledge of things-in-themselves, and must not look behind for any further reality. In answer to the objection that a feeling cannot be felt without some one to feel it, it is sufficient to say that a feeling never occurs in isolation, but only in the connected whole of a mental life, as a necessary member of which it has its place in reality. This we may allow, and yet not feel that we have received much help towards understanding how the "disconnected manifold" of the lower forms of psychical life can originally pass into the connected whole, the unity of self-consciousness, which after all has nothing at all analogous to it in the physical world.

From this idealistic ontology we are led to a Pantheistic theology by way of evolution and its significance for a teleological interpretation of the universe. Granted that none but purely physical explanations must be used in natural science, that metaphysical principles and supernatural agencies must be rigidly excluded from all accounts of the material world, it still remains for Philosophy to answer the question, "What is the *meaning* of all this?" That it *has* a meaning we find from the fact that all events are not of like importance for us; we cannot, for instance, regard each moment in the development of a living organism as of equal value, the process culminates in some stage or aspect of relative perfection which assumes for us the appearance of the aim or end determining its whole preceding evolution. That it is so we have indeed no proof; to any one who had no subjective preferences all events would be alike indifferent, and he would fail to comprehend those estimations by which we select from the actual what seems to us essential, and what therefore constitutes for us the real reality. Nevertheless the fact remains and must be taken into account as the basis of all philosophical

inquiry. But in asserting this "æsthetic teleology" Dr. Paulsen does not allow the validity of the "argument from design" as used by natural theology. There is no more room for final causes in nature than there is for physical causes in our interpretation of nature; they do not stand in a position of rivalry, they supplement each other. Every process can and must have both its physical explanation and its teleological interpretation, corresponding to the twofold aspect of reality.

Utilising this principle with reference to the modern theory of evolution Dr. Paulsen finds that "natural selection" is not in itself a sufficient explanation of evolutionary phenomena. It is true that we can no longer assume either the original creation of distinctly developed species, nor yet a pre-established order of things designed to develop to the greatest possible perfection the existing forms of organic life. Still some positive principle is needed to supplement the negative description of a merely mechanical selection, and this we may find in the conception of a will which, in its efforts towards life and the maintenance of the species, is the ultimate presupposition of all evolution. Physically such a will is no more than a system of forces which reacts upon certain stimuli in a manner predetermined by its constitution. But metaphysically we may regard the whole process of evolution as a blind striving of wills after an unconscious ideal, and every organism as the embodied expression of will in its attempt to realise the type of its species. One advantage of this theory of an "immanent tendency" is that it enables us to conceive of a better mode of achieving the transition into higher and more perfect forms of life than by way of the external aid of a struggle for existence.

It is in this way that we are asked to regard organic life as subservient to an end; not as if it were "pieced together by some external thinking Being," but as the outward expression of an inner life developing itself with teleological necessity. The striving after an end is as characteristic of psychical life, as mechanical causality is of physical; and the next step towards Pantheism is the universal application of this idea. All movement has for its counterpart a will striving after an end, for the most part, it is true, unconscious, but none the less real. The further construction of an ultimate consciousness embracing all these lower wills in one final unity, therefore of nature as a system developing towards one ultimate end, is suggested rather than asserted. We have passed beyond the region of proof, "we can calculate the movements of the planets, but we fail to grasp the music of the spheres"; and in the chapter on Pantheism and the Universal Soul Dr. Paulsen confines himself to bringing together some considerations which may, or may not, lessen the difficulties which press upon us when we try to give definite form to the thoughts arising from his very suggestive discussions. Perhaps more help may be derived from the chapter on the Relation between Know-

ledge and Faith, in which the importance of the latter is powerfully urged. Knowledge is of the past only, and has little practical influence; to Faith the future lies open, and the motive power in life is the more or less conscious ideal which every one possesses, which determines for him the meaning of the universe, and towards which he strives either blindly or with open eyes.

There is little in the Theory of Knowledge which has not already been touched upon in the Metaphysics. Dr. Paulsen seems here to occupy a position of eclecticism. So far as concerns the inner world of consciousness he is a realist; here we know "things-in-themselves"; there is no distinction between the self as we know it, and the self as it really is, for the soul *is* nothing more than the sum-total of the phenomena of consciousness. His external world he constructs with Mill from "permanent possibilities of sensation," but with Kant he holds that in objects we know only phenomena which point to an underlying reality. Against Kant, however, he urges that we do know something of that reality, for we can construct it in analogy with the reality which we know in ourselves—the inner life. On the problem of the origin of Knowledge Dr. Paulsen adheres to the empirical standpoint, and denies the possibility of universal and necessary judgments concerning matter of fact. He raises once more, and discusses at length, the question: "Has Kant answered Hume?" and he answers it in the negative—mainly on the psychological grounds that inasmuch as the nature of the knowing subject changes historically, it is impossible to find in it any rule as to the forms which the object will assume in Knowledge. On the other hand he preserves, as "the cardinal point of the Kantian Philosophy," the thought that though knowledge is a function of the subject it is not the only function, nor even the most important.

It is impossible in a short account to do justice to the persuasive eloquence of the work, or to the innumerable interesting suggestions which occur in it. It is a book which will probably be widely read, and cannot fail to stimulate thought and interest in its subject wherever it is read.

H. Dendy.

VII.—NEW BOOKS.

The Elements of Logic, Theoretical and Practical. By J. H. Hyslop, Ph.D., Instructor in Logic, Psychology, and Ethics, Columbia College. New York: Charles Scribner & Sons, 1892. Pp. vii., 403.

The author states in his Preface that his aim has been "to produce a work that could be used both for beginners and for advanced students of the subject, but not for those who care to go into it exhaustively". This double aim indicates very clearly the character of the book. It is not only in many respects a clear exposition of the elements of the subject, but it is, besides, a thoughtful and to some extent an original contribution to Logical doctrine. But the author does not exaggerate his differences of view: on the contrary, he makes very fair and candid acknowledgments of the work of the best-known writers in English. The most elaborately worked-out chapter is that on Inductive Reasoning, in which the author's remarks are worthy of some consideration. His treatment of Fallacies is again specially good. The author introduces the very useful term *Conferentia* (in antithesis to *Differentia*) to denote the essence of the Genus.

But his treatment of the whole subject of the relations of Intension and Extension—though very painstaking and elaborate—is far from being clear, intelligible, or consistent. He aims at a distinction between the Mathematical and the Logical General which appears (on p. 193 and elsewhere) to correspond merely to the distinction between the Extension and the Intension of the Genus-name, though (on pp. 75 and following) he seems to apply the terms to different sorts of genera. There is also great wavering in the use of the terms *Essentia* and *Accidentia*. On p. 113 he maintains that the distinction is extra-logical, and yet he bases his discussion of Fallacies of Equivocation in Quality and his contrast between the concrete and the abstract interpretation of propositions (p. 237) mainly on this distinction. On p. 80 he commits an extraordinary blunder. After quoting Mill as follows: "Whiteness, Length, Virtue signify an attribute only (and are therefore) non-connotative. But White, Long, Virtuous are connotative," the author makes an attack upon Mill for holding that adjectives are non-connotative and abstract names connotative! The author's treatment of Disjunctives involves a gross violation of formal Logic. On p. 109 he says: "The proposition A is either B or C *means* that if A is B it is not C, or if A is C it is not B"; and yet, on p. 215, with minor A is not B, he infers that A is C, thereby committing the fallacy of denying the antecedent or affirming the consequent. There are several other formal mistakes in the work, and an unusually large number of loosely-composed sentences and misprints.

Evolution and Man's Place in Nature. By Henry Calderwood, LL.D., F.R.S.E., Professor of Moral Philosophy, University of Edinburgh. London: Macmillan & Co., 1893. Pp. vii., 349.

Professor Calderwood maintains two theses. (1) That the origin of animal intelligence is incapable of explanation as a product of the evolution of organic life under the law of natural selection; (2) that human reason cannot possibly be a development of merely animal intelligence.

His point of departure is the distinction between "sensory and rational discrimination". Sensory discrimination consists in merely experiencing different sensations, rational discrimination in interpreting sensory differences so as to distinguish by their means different objects. Objective reference is the essential characteristic of intelligence as contrasted with mere sensibility. The development of sensory discrimination depends on biological development. But "intelligence has not been scientifically traced to structure, as sensibility has been, as co-ordination of impressions has been, as excitation of motor action has been". Biology cannot show why in the higher animals and in man passive modifications of sentience become invested with objective significance for the subject which experiences them. "Looking at a dog's brain, we can tell that the animal has been capable of sensory experience, and of locomotion; and has been distinguished by prominence of the sense of smell. But, with the evidence lying before us in this structure, we cannot tell that the animal was intelligent."

Professor Calderwood confidently denies that "animals lowest in the scale" possess anything higher than powers of sensibility. "When the higher mammals are compared with the lower it is clear that a power of Intelligence must be attributed to the higher, which cannot be credited to the lower." The most satisfactory evidence of this is found in the behaviour of animals under domestication, and especially in their ability to attach some meaning to conventional signs. "The animal capable of this, transcends the sphere of sensible discrimination, showing itself able to interpret sensory experience, and to apply such interpretation for its own guidance." But the best achievements of animals show no trace of the distinctive characteristics of the "rational life" of man. "The outstanding features of this rational life spring out of the power to reason from general principles towards a systematised view of existence." This implies self-consciousness—the distinction between self and the world. 'Rational power' is concerned with the relations of experience to a "sphere of knowledge". The contrast between the sporadic acts of intelligence in animals and the systematic unity of human experience is strenuously urged by Professor Calderwood.

Perhaps the weakest point of the book is the tacit assumption that inasmuch as neural processes are homogeneous. the mental states correlated with them must be homogeneous also. On this view the qualitative differences of sensation ought to be impossible; for their neural counterparts are all modes of motion. It may also be doubted whether Professor Calderwood is justified in his confident denial that the lower organisms possess intelligence in the sense of reference to an object. Is it certain that the amœba is incapable of saying to itself "thingumbob again"? Finally, scant justice is done to the old doctrine, which Romanes has recently brought forward under a new title. Professor Calderwood seems quite to miss the significance of the theory of "recepts".[1]

Kant's Kritik of Judgment. Translated, with Introduction and Notes, by J. H. Bernard, D.D., Fellow of Trinity College, and Archbishop King's Lecturer in Divinity in the University of Dublin. London and New York: Macmillan & Co., 1892. Pp. xlviii., 429.

This translation supplies a want which must have been keenly felt by every lecturer on the Kantian Philosophy. The *Kritik of Judgment* forms an integral and essential part of Kant's system, and it exercised a

[1] A theory which can be traced back at least as far as Gassendi.

powerful influence on the subsequent development of philosophical speculation in Germany. Yet no previous English translation has appeared. Mr. Bernard has done his work well. His rendering of technical terms is throughout careful and consistent. His version, so far as we have been able to test it, appears to be accurate, and it is as readable as an accurate version could reasonably be expected to be.

In his introduction he gives a lucid sketch of the plan and contents of the *Kritik*, and criticises in an interesting way the Kantian doctrine, that the conception of design in nature is merely regulative. His contention is that arguments precisely similar to the Kantian might be urged against "our affirmation of purpose, design, will, as the spring of the action of other human beings". He might have adduced, in support of this view, Berkeley's *Alciphron*, and that very able work, Herbart's *Modern Realism*.

Plato and Platonism. A series of lectures by WALTER PATER. London and New York: Macmillan & Co., 1893. Pp. 258.

We are told by Mr. Pater in an introductory note that "the lectures of which this volume is composed were written for delivery to some young students of philosophy, and are now printed with the hope of interesting a larger number of them". If the young student is capable of becoming interested in Plato at all, he is certain to be powerfully attracted by this book. It is delightful reading throughout. The formal account of Plato's teaching occupies comparatively little space, being confined to three chapters out of ten: chap. vii., "The Doctrine of Plato," chap. ix., "The Republic," and chap. x., "Plato's Æsthetics". Mr. Pater holds with the Master of Balliol, that Platonism is "not a formal theory or body of theories but a tendency, a group of tendencies—a tendency to think or feel, and to speak, about certain things in a peculiar way, discernible in Plato's dialogues as reflecting the peculiarities, the marked peculiarities of himself and his own mental complexion". The "conditions antecedent and contemporary" which helped to mould the mind of Plato are treated in the first five chapters, which are concerned with the pre-Socratic philosophers, with Socrates and with the Sophists, and ch. viii. on "Lacedæmon," which is preliminary to the exposition of "The Republic," as a "theoretic attempt made by Plato to arrest the process of disintegration in the life of Athens, by forcing it back upon a simpler and more strictly Hellenic type". Ch. vi., on "The Genius of Plato," gives a vivid picture of the personality which was "resistant to," while it was "moulded by," these contemporary and antecedent conditions. Mr. Pater here sets forth in his most impressive manner the "paradox" of Plato's mental constitution, the combination of sensuous richness and vividness with austere devotion to abstract truth and to moral ideals. In his case, "the sensuous lover becomes a lover of the invisible, . . . carrying into the world of intellectual vision all the associations of the world of sight. Some of the invisible realities he can all but see with the bodily eye." The account of pre-Socratic thinkers is scarcely up to date. It fails to point out that Heracleitus, Parmenides, and the Pythagoreans had by no means passed beyond the materialistic point of view. This is unfortunate, because it obscures a distinctive merit of Plato—his origination of the concept of immaterial existence.

A Review of the Systems of Ethics founded on the Theory of Evolution. By C. M. WILLIAMS. London: Macmillan & Co., 1893. Pp. 581.

Mr. Williams devotes 264 pages of his work, constituting its first part, to the recapitulation of the theories propounded by the chief exponents

of Evolutional Ethics, including such authorities as Darwin, Wallace, Haeckel, Spencer, Rolph, Leslie Stephens, Höffding, &c. In the second part, he proceeds to give a positive exposition and justification of the principle of Evolution as a basis of Ethical theory. Evolutionists only recognise two springs of action in sentient beings—the preservation of self and the preservation of offspring. Out of which of these two impulses is Altruism to be evolved? This is the central problem of Evolutional Ethics, and the one with which Mr. Williams closely deals in this part of his work. After three preliminary chapters treating respectively—i. The Concepts of Evolution; ii. Intelligence and "End"; iii. The Will; in ch. iv. the Mutual Relations of Thought, Feeling, and Will in Evolution are considered. In this connexion Mr. Williams criticises Dr. Sidgwick's position with regard to the possibility of separating desire from feeling. Mr. Williams thinks there can be no desire unconnected with pleasure or pain to the agent desiring. This is a time-honoured controversy, and we do not think Mr. Williams has been very successful in his contribution to it.

In ch. v. Mr. Williams investigates the existence of Altruism in types of animals lower than man. He has succeeded in bringing together a variety of instances showing the presence in them of at least a germinal altruistic instinct. In no case, however, does this grade of Altruism extend beyond the regard for offspring, and this impulse is so automatic in its operation that many animals if deprived of their own young must satisfy their fostering tendency by nourishing offspring other than their own. Between this irrational automatic impulse, however, and the abstract philanthropy of human beings there seems a great gulf which the Evolutionists have a difficulty in bridging over. Ch. vi. is devoted to an account of the attempts which have been made to evolve Altruism from the original impulses of organic life. Mr. Williams thus sums up the results: "Altruism is increased directly by the perception and choice of co-operation as advantageous, by the spread of altruistic feeling and the compulsion of the social environment, as well as by the higher means of persuasion and affection, in which Altruism itself effects the increase of Altruism; and it is also increased indirectly by the aid of natural selections between individuals, families, neighbourhoods, and groups of all sorts, co-operation becoming more and more advantageous with the *increased density* of *population*" (p. 428). Ch. vii. is an historical retrospect of the moral progress of mankind; it is full of important materials and will be probably to many readers the most interesting and instructive chapter in the book. Ch. viii. contains criticisms of Mr. S. Alexander's Absolute Right; of Rolph on Want as necessary to induce action; of Spencer on Altruism, &c., &c. Other topics discussed in this chapter are: The Doctrine of the Atonement; Biblical Authority for the Killing of Witches and Heretics; The Asceticism of Christianity; The Defence of Christianity as being a comforting belief. The book concludes with a chapter on the Ideal, and the way of its attainment. The author challenges the opinion of Mr. Stephens, that it is impossible for us to determine what a state of ideal morality should be. Mr. Williams on the contrary contends that there would be little disagreement in opinion as to what the ideal should be, but that our chief difficulty must lie in the determination of the course to be pursued in order to attain to the ideal. We can recommend this work as much to the general reader as to the student of contemporary philosophical systems. It is full of illustrative matter and popular presentments of speculative questions, which must at some time or other have suggested themselves to every mind.

La Philosophie de Hobbes. Par Georges Lyon, Maître de Conférences à l'École normale superieure. Paris: F. Alcan, 1893. Pp. 220.

This is the most complete and detailed exposition of the Philosophy of Hobbes which is anywhere to be found. The excellent monograph by the late Professor G. C. Robertson is largely concerned with his personal and literary history, so that in it the systematic account of his doctrine is confined to no more than 90 pp. M. Lyon, after sketching the life and work of Hobbes in ch. i. and after giving an interesting account of his controversy with Descartes in ch. ii., proceeds in the eight following chapters to reproduce for us the train of deductive reasoning by which Hobbes passes from doctrine of method and explication of ultimate concepts, through Psychology, to ethical and political theory. The work is extremely well done, and it has evidently been a labour of love. Stress is everywhere laid on the fusion in Hobbes of two tendencies, which are commonly opposed to each other—the tendency to *a priori* deduction from definitions after the type of mathematical procedure, and the tendency to trace all knowledge, not only as regards its genesis, but also as regards its validity, to the perception of individual and singular things. The result is the "erection of an original and equivocal system, which, according as we consider it under this or that angle, appears as a monument raised in honour of (speculative) reason or as a trophy in glorification of experience". Hence the admiration which it has excited in thinkers of opposite schools.

The account of the nominalism of Hobbes is in our opinion not quite satisfactory, inasmuch as it fails to bring out the abiding value of Hobbes' theory of the connexion of thought and language. The vital point of this theory is that, apart from language, abstract ideas are merely shifting and evanescent points of view in which the individual mind considers things at this or that moment. Only in so far as these modes of considering things take the form of determinate meanings attached to determinate words, do they acquire the fixity and permanence which renders them capable of figuring as elements in a logical calculus. Doubtless he has pushed this view too far and has connected with it a theory of the nature of real existence which cannot now be maintained. But the central point of his doctrine remains a definite and irreversible step in the progress of Psychology.

M. Lyon's book ought to be read by all who take an interest in the Philosopher of Malmesbury. It is a model of lucid exposition: it is throughout careful and accurate; it abounds in fine observations, and it covers ground not occupied with nearly the same fulness by any other work on the subject.

Les Eléments du Beau, Analyse et Synthèse des Faits esthétiques, d'après les documents du Langage. Par Maurice Griveau. Paris: F. Alcan, 1892. Pp. 582.

M. Griveau attacks the æsthetic problem by a new method. His point of departure is language. The idea of the beautiful—and of the ugly—finds expression in a rich vocabulary of epithets, eulogistic or critical. The author regards these epithets as expressing "elements of the beautiful". He sifts, analyses and classifies them, and by this process works out a system of æsthetics which presents many points of interest. Longer notice will follow.

Platon, sa Philosophie, précédée d'un Aperçû de sa vie et de ses écrits. Par C. Bénard, Ancien Professeur de Philosophie. Paris: F. Alcan, 1892. Pp. 546.

There have always been two opposite opinions among the historians of philosophy as to the true character of Plato's literary contributions to the intellectual development of the human race. On the one hand it is maintained that Plato was a great constructive thinker, systematising and organising the teaching of his predecessors, especially with the view of establishing the doctrines of Idealism inculcated by Parmenides and the Eleatics. On the other hand there are many analysts of the progress of Greek thought who have found in Plato's writings nothing but a loose collection of hazardous speculations, by which the impression is produced that Plato, while meditating very much, had believed very little. M. Bénard tells us that the aim of his work is to vindicate the claim of Plato to be a positive and dogmatic expounder of truth. His arguments are principally derived from the writings of Plato himself. M. Bénard does not pretend to have derived much illumination from the mass of German and English commentators extant, and he only mentions one of his own countrymen, M. Alf. Fouillée. M. Bénard deprecates indeed the criticism of the learned by confessing that he aims rather at popularity than profundity.

It is always an interesting question with students of Plato's dialogues how far the opinions he sets forth therein are his own or those of his principal interlocutor, Socrates. On this point M. Bénard remarks that Plato was not so much concerned to present the doctrines of his master Socrates in their rudimentary and germinal stage, but rather as they appeared in their maturity, under which aspect Plato wished posterity to regard them (p. 5). It does not seem, however, that Platonism can be legitimately regarded as a mere evolute from Socraticism. In many respects Plato makes a completely new departure in Matter and Method from his master, to the extent even of complete opposition; for example, while the constant boast of Socrates was that he had brought philosophy from heaven to earth, the lofty Idealism of Plato seemed rather designed to exalt philosophy to heaven.

M. Bénard thus summarises the epistemology of Plato. The lowest round in the ladder of human knowledge is *sensation*, αἴσθησις, the process by which external objects are primarily apprehended in a kind of rough or plastic state. The next step is *opinion*, the act of judgment by which the mind cognises without reflecting or reasoning, a simple affirmation or negation which may contain truth or falsehood, according to the degree of mother-wit or divine inspiration possessed by the agent. A still higher step in cognition is *reasoned opinion*, that is, a judgment or opinion based upon evidence, a product of the *discursive* faculty. Finally we arrive at science, the realm of ideas, the most general truths of which Mathematics, Astronomy, and Music partake.

To the three degrees of science Plato found a corresponding gradation in the realm of objectivity. (1) The sensible, phenomenal, or unreal universe; (2) An intermediate state of existence between being and not being; (3) The intelligible or real world, the essence of things, ideas, the ultimate potentials of all things. It is this parallelism between knowing and being that enables the human intellect to decipher the true characters of things.

After presenting a general outline of the Platonic teaching, M. Bénard enters upon a full delineation of the details of Plato's system as they flow from the principles of idealism, treating his subject in accordance with

the three established divisions of philosophy, Dialectic, Physic, and Ethic. In the Dialectic (p. 191), M. Bénard discusses Plato's peculiar treatment of the relation between the active and the speculative faculties of the human soul. The intellect of man is inspired and stimulated by an impulse continually tending to the attainment of the ideal or perfect. This passion for excellence is the enthusiasm which elevates and dignifies every species of human art. Ideals are an irresistibly attractive force, compelling the highest order of souls not only to contemplation but to union and assimilation with themselves.

M. Bénard's account of the Platonic physics includes under this head Cosmology, Anthropology, Psychology, and Theology. He thinks the entire method of the Platonic Psychology is summed up in the maxim—Know thyself. The most distinctive characteristics of the soul are its *mobility*, *activity*, *spontaneity;* by these attributes the spiritual and immaterial soul manifests itself as the organ of choice and free-will, obeying only the guidance of the ideal.

M. Bénard has done well in devoting a considerable portion of his work to the examination and elucidation of the chief topics comprehended under Ethic, *viz.:* the sciences of Morals, Politics, and Education.

Education includes Æsthetic and Rhetoric. Plato's views on education are most clearly enunciated in the Protagoras, Hippias, Republic, and Laws. The gymnastic of the body and the mind is the means of promoting virtue, which Plato identifies as the health of the soul. Health again is the just balance and equilibrium of functions in the individual and in the state. The whole life of man needs rhythm and harmony; hence the special importance for all artistic exercise, such as Music and Rhetoric. M. Bénard thinks too much prominence is given to Plato's censure of the poets in the Republic, as it is clearly only dramatic poetry to which he objects, as being designed to stimulate and irritate the passions of men, which education should seek to calm and purify (p. 478). He concludes with an attempt to form a due estimate of Plato's position in the history of the development of the human intellect; he also treats of his general method, and the relation of his system as a whole to that of Aristotle.

Die Sittliche Weltordnung. Eine Systematische Untersuchung. Von Friedrich Traub, Stadtpfarrer. Freiburg: J. C. B. Mohr, 1892. Pp. 96.

This essay (not counting a brief introduction and conclusion) is divided into four sections as follows: 1. The Order of Nature; 2. Morality; 3. The Idea of a Moral Order of the World (that order of things which is governed by the idea of the Highest Good—*i.e.*, the exact apportionment of happiness to virtue—and guarantees the realisation of this idea); 4. The reality of a Moral Order of the World.

1. Is to a great extent a *résumé* of the Kantian doctrine as understood by the author.

As regards the idea of Morality, the author's view is that we have no such firm basis to start from as is provided by actual experience in the case of physical knowledge. For experience may be unable to show us a single action which completely realises the moral idea. "Nature expresses a fact which is confirmed by empirical knowledge; morality is the expression of a law which is exalted above empirical facts." "Ethics, the science of Morality, seeks an answer to the question, What ought I to do?"

There is no doubt a most important distinction between what *is* and what *ought to be;* but it seems to be hardly a satisfactory explanation of the difference to say (as Mr. Traub does) that Will (the subject-matter of

Ethics), so far as it *is* the subject-matter of Ethics, is not an object of psychological investigation—that, ethically regarded, human actions are not causally conditioned. This same Will, from the standpoint of Empirical Psychology, *is*, in his view, causally conditioned. The empirical and ethical views of Will are thus diametrically opposed, not to say absolutely incompatible. How any creature can have a Will which both is, and is not causally conditioned, remains a mystery.

All Morality, Mr. Traub insists, presupposes recognition of the idea of *Good* as distinct from *Pleasant*, &c. This idea of good requires a relation of the Will to an unconditioned law. In as far as the demands of this law are fulfilled the Will is free. *Free* here should mean uncoerced by the Natural Order—for obedience to law, even unconditioned law, is not itself unconditioned or free. And such obedience, in mortal men, must be realised in mere empirical action; and, if so, it must be of the same tissue, warp and woof, as the ideas and feeling which are empirically psychological. Indeed the very recognition of this unconditioned law (which carries within itself the reason for its own acceptance) is but an item, however important, in the series of thoughts which help to constitute the subject-matter of that Empirical Psychology which is described as "Naturlehre Zweiter Ordnung". Mr. Traub (who is a Psychological Hedonist) asserts that no action is done except as it is pleasurable or useful. But the Moral Law must, if realised, be realised in action; and must thus, it would seem, be strictly conditioned by mere natural feeling and the Category of Causation.

There remain two real difficulties to be met, and it seems to be these which the author chiefly has in mind when he insists on the necessity of basing Ethics partly on Revelation—on bringing Revealed Religion to the aid of Ethics. These are (1) the existence of Evil; (2) the difficulty of showing that Virtue will be rewarded. The Highest Good is the "vollkommene Verknüpfung der Tugend mit der Glückseligkeit". This bliss, however, concerns only the *ethical* personality (*Subjekt*), and is nothing but the reflex in feeling of successful moral action. The Highest Good must indeed also include freedom from all ills, but this is only a negative characteristic.

Mr. Traub does not consider that the difficulties above indicated are removed by accepting the existence of God and of a future life. He holds that nothing short of belief in the Christian religion is sufficient because Christianity is the only morally perfect religion, and nothing short of a perfectly moral religion can confirm a perfect morality.

Ueber die Lehre vom genetischen Fortschritte der Menschheit. Rektorats-Rede von Dr. HERMANN SIEBECK. Giessen: Curt von Münchow, 1892. Pp. 18.

In explaining the subject of his address more fully than is done in the title, Dr. Siebeck says it is concerned with the view that "mankind inevitably follows an upward path in the course and process of culture, in spite of any apparent stoppages and retrogressions—meaning by *upward path* that there will be secured a continuous increase of happiness for the individual and for the whole of which he is an unit, and at the same time an increase in the ideal worth of the physical and intellectual work accomplished by both". This widespread doctrine claims, he says, to give a profound, and at the same time, ultimate answer to the question, What is the real meaning and end of the life of man? But in spite of the air of axiomatic venerableness which seems to cling about it, this theory of progressive development is in fact one of the very latest intellectual acquirements of civilised man—indeed, a noteworthy

mark of distinction between modern times and previous ages is to be found in the fact that for the latter no similar historico-philosophical problem existed. It is a doctrine to the inception and evolution of which many and complex factors have contributed.

As a result we find the modern view, already formulated, that Man in virtue of the tendencies of his nature is bound to develop to higher degrees of perfection and happiness in the course of time—that the very essence of culture is a continuous progress, in the course of which the antagonism between man and his environment is by degrees done away —that environment becoming ever more inwoven with Man's very life. In close connexion with this is the further view that Man's significance, as an unit, is ever lessening in comparison with his significance as a constituent of the mighty whole. And all is seen and estimated from the point of view of progress, understood as a manifestation of harmonious forces. In the world of matter, of thought, and of conduct, what is earlier and lower is considered to find its outcome, explanation, and justification in what is later and nobler. In this idea of a self-conditioning, self-perfecting, unceasing development of the world as the stage and the material of an ever wider and deeper human life, the content and purpose of the universe are seen to coincide. The final stage of this development may be regarded as receding into a dim and infinite distance, or as being a definitive result, which, when reached, contains within itself the conditions of its own permanence.

This doctrine of progress is, in Prof. Siebeck's view, rather of Faith than of Knowledge. People believe in an unending progress of the world and of mankind, because otherwise they would not be able to see that what *is* is what *ought to be*—that Life is really worth having.

Against the doctrine various objections have been raised—according to the pessimistic (but itself evolutionary) philosophy of Schopenhauer and Hartmann, it is an unjustifiable generalisation, and an illusion which, from a practical point of view, is important. Then, again, an objection has been raised to the effect that though in the course of historical development human life becomes richer and more varied, it remains doubtful whether or not the increase of happiness counter-balances the increase of misery, and whether virtue and vice do not grow *pari passu*.

Those who hold this view maintain that the question cannot be satisfactorily settled by an appeal to statistics, and that the optimistic view of progress is but a mere guess, both optimists and pessimists being without an unit of measurement, and having to compare incommensurable magnitudes.

A satisfactory basis for the Progress theory could be found only in its logical and ethical content. And we can find it here only on condition that worth and definite significance cannot be assigned to life and historical development, except on the supposition that this development does in point of fact carry on and realise the never-ending advance of humanity—every element of the process being of value, not in itself, but as an integral part of the whole movement—that movement being itself the Real Reality and the Good-in-itself.

In Dr. Siebeck's opinion, this view overlooks the fact that the supposition of ceaseless and inevitable progress, while it assigns Perfection to the Whole, makes it impossible for the Parts--persons and events are robbed of individual importance—hence the worth and intelligibility of the world generally cannot be established by reference to the progress of mankind as a whole. Such progress may be conceived (1) as going on endlessly, or (2) as advancing towards a definite final condition. With regard to the first, its whole force and value must be

sought just in the very continuity and dynamic advance of the process. In the attempt to assign worth to it, however, a barren circle is inevitable; since the worth of the whole must depend upon the worth of its constituent parts—while, on the other hand, these latter have value or worth only as constituents of the whole.

In this connexion the weighty problem of the existence of Pain, Evil and Sin comes to be considered. And from the present point of view the only explanation and justification that can be given of the sufferings of individuals is that their pain was necessary for the development and perfecting of the whole—the earlier comer suffers for the benefit of the later. But, since pain seems never to vanish, this only amounts to saying that antecedent pain and pleasure determine the pain and pleasure which come after. And so with sin. Hence Ethics is resolved into Dynamics, and the contrast of good and evil appears as a mere illusion.

The variation of view according to which the course of progress results in a kind of millenium, in a final improved condition to which all previous stages have led up, is no more satisfactory. For, however long it were to last, it would be a state of stagnation; hence ethically unsatisfactory, and not worth having. But, further, human life upon this planet must come to an end within a measurable time. Hence it would seem that the only effect of all which has been done and suffered by past generations is to make the lives of an indeterminate number of persons during a measurable time a little better and a little happier than their own. And this surely is no sufficient account of the final significance of human life and the existence of suffering and sin.

These difficulties are not avoided by holding that it is Moral Perfection and not Happiness that is attained in this final stage—in which men will, as it were, enter into the moral labours, the efforts and struggles of their predecessors. Here Dr. Siebeck appears as an advocate of the view that there is no moral goodness without effort; and accordingly pronounces that this easy millenial morality is not truly moral, and is less worthy than any previous stage.

The fact, however, remains that it is impossible to deny that progress has taken place in human society. Dr. Siebeck does not profess to consider, here, the test by which progress is to be measured; but appeals confidently to the opinion of civilised men on the point.

Progress in this sense—the capacity of educing what is more perfect from what is less perfect—is not quite the same as progress as explained at the beginning of the essay. For it now appears as something of which man is capable, and which he is called upon to accomplish. Human progress is not a necessity of Nature—for peoples are stationary and retrogressive as well as progressive. Advance to what is better is a task—an ethical task which man may accomplish or may fail to accomplish. Thus regarded, progress is in accordance both with historical fact and with the requirements of logical thought. It is satisfactory ethically; and the ultimatum of ethics on the subject may be summed up in the words (addressed to the individual man):—

> "Es ist nicht draussen, da sucht es der Thor;
> Es ist in dir, du bringst es ewig hervor".

Geschichte der Philosophie. Von JULIUS BERGMANN. Bd. i., Die Philosophie, vor Kant; Bd. ii., 1ste Abtheilung, Von Kant bis Einschliesslich Fichte. Berlin: E. S. Mittler und Sohn, 1892. Pp. 456, 251.

This work is intended for readers who are interested in History of Philosophy, not for literary or antiquarian reasons, but because of their

interest in Philosophy itself. Its special claims to attention are, according to the author : (1) the unusual fulness and completeness with which the leading systems are presented, and (2) the numerous discussions in the way of criticism or elucidation which are interwoven with the general exposition. On a careful reading both these claims are found to be well substantiated. The exposition is in general very full and very lucid, and it is evidently founded upon a thoroughly accurate and careful study of the original sources. The least satisfactory part is that which is concerned with Ancient Philosophy. The essentially materialistic point of view of the pre-Socratic thinkers is not sufficiently recognised. The statement that Parmenides regarded the universe as a mere thought is neither credible in itself nor supported by the evidence. His affirmation that thought and being are the same is easily susceptible of a different interpretation. It probably means that we cannot think without thinking of some being, and that therefore not-being is unthinkable, *i.e.*, absurd. The account of Plato's Theory of Ideas is scarcely likely to find favour with specialists. Only 20 pp. are given to the Fathers and the Schoolmen. Bacon and Hobbes are classed with the forerunners of modern Philosophy, as in Erdmann. A leading place in the history of philosophical development is denied to Bacon; but Mr. Bergmann does not appear to us to appreciate his significance.

The exposition of Descartes is distinctly good ; Spinoza is admirably treated, and the same may be said of Leibniz. Locke, Berkeley, and Hume are presented in an appreciative and helpful way. The account of the Kantian system is clear, careful, and likely to be useful. But like every account of Kant it is of course open to dispute in some points. Bergmann thinks that Kant regarded the empirical order of phenomena as determined, not by the thing-in-itself, but by the productive imagination.

The 'critical and explanatory discussions' which are interwoven with the general exposition of the various systems contain much interesting and instructive matter. Among the most noteworthy are those relating to the ontological argument for the existence of God as formulated by Descartes (vol. i. pp. 237-245), the mutual connexion of substance, attribute, and infinite mode in Spinoza (*Ib.*, pp. 287 *seq.*), Spinoza's view of the human mind as the idea of the body (*Ib.*, pp. 307, 311), and the Kantian conception of synthetic *a priori* judgments (vol. ii. pp. 27-37).

As regards this last point, Bergmann maintains that all so-called synthetic judgments *a priori* are really analytic. The true question, according to him, is : How is it possible for analytic judgments to advance knowledge ? His solution of this problem is based on the possibility of two concepts referring to an identical object in such a way that their difference is merely a difference in our mode of considering this object. Thus the concept of the straight line drawn from the point *a* to the point *b* and that of the straight line drawn from the point *b* to the point *a* have an identical objective reference. The whole discussion is well worth reading.

It must be said in conclusion that the book has one very serious defect. From beginning to end there is an entire absence of reference, both to original sources and to works on the History of Philosophy.

Ideale Welten nach Uranographischen Provinzen in Wort and Bild. Ethnologische Zeit -und Streitfragen nach Gesichtspunkten der Indischer Völkerkunde. Von A. Bastian. Berlin : Felher, 1892. 3 vols.

Dr. Bastian is well known as a learned and laborious writer on ethnological subjects and one whose works have a certain amount of value.

In this large work he deals with a number of questions in Oriental philosophy and comparative mythology concerning which he gathered materials during his visit to India in 1889-91.

In his first volume he deals with a variety of topics, Buddhistic, Brahmanic, and Jain, treating them with such overwhelming discursiveness, and interspersing his text with such a profusion of quotations from all sorts of authors, that the study of his large and closely printed pages is no light task.

Most of the topics discussed, such as the various theories of psychology, soteriology, and symbolism, Karma, Nirvana, Lingam Worship, Atma, &c., are familiar to students of Indian Philosophy. To such there is not much of novelty or originality in this part save some parts of his attempts at the demonstration of the inter-dependence of all philosophic and religious systems, Christian, Indian, Chinese, &c. He has been at enormous pains to collect and collate the statements and views of all sorts of authors on these subjects.

The second volume treats of the special points of contact of India and its philosophic literature with primitive Ethnology and History. The third and most interesting is occupied by a discussion of the philosophy, cosmogony, and theogony of the Jains, concerning which he has gathered a prodigious number of extracts from the copious literature of the subject, much of which is familiar to readers of the journals of the Asiatic and kindred societies.

After the manner of most popular writers on these subjects, Dr. Bastian's text bristles with words and names in Sanskrit, Pali, and other Oriental languages. Its utility as an exposition of Eastern philosophy is marred by a want of system in the arrangement of the cumbrous and imperfectly digested mass of material which the author has accumulated, which makes any analysis a matter of difficulty. To the student who has made a special study of Oriental philosophy, this laborious treatise will be of some interest, and much of it is suggestive, although it may not add much to his knowledge; but to the general school of psychology it presents few features of sufficient attractiveness to repay the labour and pains which its perusal entails. The work is illustrated with twenty-two mythological tables and figures taken from original sources and explained at length, showing Buddhistic, Jainistic, and Brahmanic schemes of the Universe and various special phases of mystical, symbolic, and eschatological beliefs.

Ueber den Hautsinn. Von Dr. phil. et med. Max Dessoir. Privatdocenten an der Universität zu Berlin. Separat-Abzug aus Archiv für [Anatomie u.] Physiologie, 1892.

This paper contains the first two chapters of an investigation into cutaneous sensibility,—a phrase which is interpreted by the author in the widest significance. The chapters deal respectively with sensation in general, and with the temperature sense: the third is to treat of sensations of contact, pressure and muscular contraction, the fourth of the common sensations.

The introduction is mainly terminological and epistemological. Sensation is defined as a not further analysable idea of sense, which is characterised by the consciousness of the subject's mental activity; perception is a compound idea of sense, in which the participation of the subject naturally recedes into the background. These definitions are open to objection on more counts than that of cumbrousness: the passage from inner to outer, attending that of simple to complex, is left

unexplained, and sensation-content is needlessly (needlessly for psychology) separated from sensation-act. Quality is ascribed, for what appear to be insufficient reasons, to perception alone. In the account of concomitant sensations, the truly synergic processes (visual, auditory) are not mentioned. A long and careful discussion of specific nervous energy leads to the conclusion, praiseworthy for its modesty, that " to every sensible apparatus there belongs a specific excitation ; to every area of the cerebral cortex, a specific function ". The externalisation (projection into the external world) and eccentric projection (peripheral bodily localisation) of sensations are ' explained,' in Münsterberg's way, by the amount of muscular work which accompanies them.

New classifications are proposed of sensations (according to neural substrata and peripheral extent), of stimuli (as mediate, immediate, and both), of concomitant sensations, of after-sensations, and of reflexes. The science of mechanically stimulated cutaneous perception is neatly termed ' Haptics '. Haptics is subdivided as follows :—

A. Sense of contact.
  (1) Contact-sensation proper (*Berührung*) : subject passive.
  (2) Pressure-sensation (pressure and pull) : muscles in play, subject active.[1]

B. Pselaphesia (' handling '-sense).
  (1) Touch-sensation (pressure *plus* movement).
  (2) Sensations of the muscle-sense.

This table is to represent the course of development of cutaneous sensibility, phylogenetically and ontogenetically. The quality-differences marked off by the author are not likely, I think, to meet with general acceptance : but criticism must be reserved, till the two final chapters of the research are published.

The discussion of the temperature-sense opens with a consideration of its position as regards the other senses. It is rightly looked upon as a single modality, embracing the two qualities of heat and cold. What will excite most controversy in this section is the negative result of the writer's investigation into the ' points ' of Blix and Goldscheider. Dr. Dessoir's criticism of Goldscheider's thermal (areal and punctual) stimulation-method seems unexceptionable ; but it is different with the thermally indifferent, mechanical stimulation,—at least in the cases of cold and pressure. If one may judge from sporadic experimentation, I greatly doubt whether the results of this portion of the research can be generally valid. But the only adequate answer to them would be given, as the author says, by a renewed systematic testing of the sense-organ.

He himself assumes that there is a single terminal apparatus for the sense of temperature, and that its excitation is directly dependent on the quality of the stimulus. In the cold-sensation, the normal heat of the skin sinks, and the end-apparatus expands ; if the heat of the skin be increased, the end-organ contracts. Thus there is a twofold chemical molecular process, of which the nerve trunks are indifferent conductors. This does not, however, explain the temperature reaction to indifferent stimulation ; a reaction which exists, whether the ' spots ' can be re-

[1] Active in the sense in which the subject is active in auditory and visual perception. But in normal perception the activity of the subject is not prominent at all (pp. 182, 243). This is only one of a number of minor inconsistencies, which the reader of Dr. Dessoir's introduction must notice.

localised by the subject or not. How Dr. Dessoir meets the difficulty will be seen later.

Urbantschitsch's assertion that continuous temperature stimuli are sensed as fluctuating in intensity is confirmed. The fluctuation is not periodic. Experiments are also quoted which show that, of a succession of similar temperature stimuli, the first are sensed as similar, the following as increased, and the last as decreased in intensity. They are based on the assumption that the rapidity of the transition to pain is a measure of the intensity of the sensation. The results of electric stimulation of a nerve-trunk were, for fourteen of nineteen reagents, negative. The remaining five persons reported sensations of burning; but in most cases it is doubtful if these were pure temperature sensations. Where this was the case, one might have recourse for explanation to vasomotor processes, or to the end-organs of 'touch' present in perineurium and epineurium.

There follow sections dealing with the anatomy, pathology, and physiology of the temperature sense. After a discussion of the present state of our knowledge of the anatomy of the sense-organ, the author proposes to determine the special anatomical relations of temperature sensation by a method of exclusion; cutaneous areas are to be found, which are insensible only to temperature, and these are to be compared with areas whose sensibility is complete. Three such areas were discovered: the mucous membrane of the respiratory nasal cavity, the lower sections of the œsophagus, with the stomach, and the *glans penis*. In spite of the writer's objection to free nervous endings (Goldscheider), the result of preliminary investigation of the *glans* points to them as the structures sought.

Experiments on dogs indicate the *G. sigmoideus* as the cortical area for temperature sensation. From pathology the conclusions are drawn: that the temperature-sense is within limits independent of the other senses, and stands nearest to pain;[1] and that its sensations arise in the lower layers of the epidermis.

The physiological investigation is concerned with the difference in temperature sensibility of different parts of the body (thickness of skin and influence of normal skin-temperature unimportant; maximum differently localised from that of the pressure-sense and 'space-sense'; fluctuation less than that of these two senses): with the upper and lower (pain) limits of temperature sensation: with the temperature 'circle' (figures only preliminary; smallest interval for cold, 1, 2 mm.; for heat, 1, 9 mm.): with the influence of the magnitude of the stimulated surface on the intensity of sensation (a general dependence, neither logarithmic nor proportional): with the dependence of the sensible discrimination on the magnitude of the stimulus (discrimination finest in the neighbourhood of the physiological zero-point; no confirmation of Weber's law): with after-sensations (cancelled by an opposite excitation, strengthened by renewed excitation of like quality; intermittent,—*cf.* Urbantschitsch's acoustical after-image; continuous,—duration determined by a method not wholly free from objection; the time-limen for heat fixed at 0, 5″): and with contrast (successive stronger than simultaneous; small stimulus-intensity to be compensated in this connexion by large extension).

[1] The term 'pain-sensation' is employed throughout the research to designate the sensation-feeling fusion, which constitutes the reaction to terminal stimulation. A similar inaccuracy characterises the use of the word *Gemeingefühl* (*cf.* pp. 230, 237).

The temporal and spatial relations of the temperature-sense to the sensations of contact and pain are next reviewed. It was found that 'deceptions of judgment' occur with minimal stimulation of the skin. This was to be expected; and the result is only important as giving the true explanation of Wunderli and Fick's experiments. Weber's *thaler*-phenomenon is restricted to the limits + 50° C., and "very cold". As regards reaction-time: Goldscheider's topography of the temperature-sense was proved to be correct, and Dr. Dessoir's figures agree with his, and with those of Tanzi and Herzen. It was further sought to determine the time elapsing between the sensations of contact and cold, contact and heat, heat and pain. It is not necessary to present the results in detail, but it must be said that neither the procedure nor the criticism of this section can wholly escape objection.[1]

To sum up. A psychophysical theory of the temperature-sense must take account of cutaneous processes and of nervous processes. Apart from its relations of time and space, the sensation is influenced by the thickness of the epidermis above the sensitive layer, by the conductivity of the different layers of the skin, and by the proper temperature of the sense-organ. The nervous processes have been variously described: but no description—Lotze's oscillations; Fick and Wunderli's space relations of the gradation of excitation-intensities; specific nerves and spots; Hering's assimilation and dissimilation—is satisfactory. Rather are these, as has already been said, a single end-apparatus, and a twofold chemical molecular process. Indifferently stimulated sensation-differences are due partly to suggestion and to "peripherally conditioned fluctuations of the attention," partly to the fact that the stimulation is *not* indifferent (variation of pressure; vascular relations of the skin; temperature of the stimulus-point). That some of these factors may be *verœ causœ* one cannot deny: but others are irrelevant,—and the attention-phrase surely represents an attempt to serve God and Mammon.

Dr. Dessoir would, of course, admit the incompleteness of his investigation. His aim is to review the literature of psychological and physiological haptics, and to present a theory which is adequate to our present knowledge. The positive value of the research cannot be estimated till it is concluded. This preliminary instalment is somewhat overburdened with classification and definition: but it boldly challenges much that has passed for proven, and will undoubtedly stimulate psychophysicists to further work upon the 'lowest sense'.

E. B. Titchener.

Spinoza's Eskjendelsestheori. Af J. M. Vold.

Æsthetik. Af M. J. Monrad. Kristiania, 1892.

Before giving a short notice of the books named, it may interest the readers of Mind to know that the study of philosophy is not neglected in the land of the Midnight Sun.

During the last thirty years not fewer than forty works in this department of literature have appeared. Some of these are of considerable dimensions and involving much research and thought. Prof. Vold, in addition to the work which we purpose to bring under the notice of the readers of Mind, has also published critical works on Kant and Lotze. Prof. Monrad has written on the higher Logic and an exhaustive work of 509 pages on the Philosophy of Religion.

The treatise of Prof. Vold on Spinoza is a work of great ability. It is the result of a profound study of all his writings. No statement which

[1] *Cf.*, especially, pp. 311, 312.

would be helpful in establishing and elucidating the point under discussion has escaped the notice of our author. Prof. Vold is also at home in the history both of ancient and modern philosophy and can consequently trace the relation of Spinoza's speculations to his predecessors and the influence he has exerted on later philosophers. The aim of the work is to set forth clearly the theory held by Spinoza as to the origin of Knowledge and its relation to his Metaphysics. The work is introduced by a sketch of Spinoza's position in relation to Descartes, the Cabbala and the Old Testament, to Maimonides and above all Bruno. This sketch leads Prof. Vold to two results: first that Spinozism in its contents shows the influence of Jewish Orthodoxy and of the Cabbala, of Bruno and above all of Descartes, and secondly that in his Criterion of truth he has been much indebted to Descartes, while in his mystic, intuitive principle of knowledge he is indebted to Maimonides but above all to Bruno. In expounding Spinoza's theory of knowledge the nature of thought and its elements are expounded. This leads Prof. Vold to set forth clearly Spinoza's relation to Scepticism. The reality of knowledge, it is shown, is a fundamental principle with Spinoza. Then in the fourth chapter an exposition is given of Spinoza's idea of ideas, which is not the mere repetition of ideas but the higher comprehension of these. The next chapter gives a full analysis of Spinoza's Criterion of truth, which is found to exist in the inner sequence of thought, this sequence revealing itself through the individual thought-act. From the sixth to the eleventh chapters Prof. Vold discourses with much fulness and clearness on the different kinds of knowledge according to Spinoza. In the chapter following these our author's metaphysical capacity is shown in the masterly way in which he analyses Spinoza's subtle distinction between infinite and finite; being and existence; substance as the cause of itself; God and the Divine attributes; the eternal and the finite modes. The fifteenth chapter treats such subjects as Spinoza's doctrine of Induction and Analogy (compared with that of Stuart Mill); Experiment, Hypothesis; the nature and value of Syllogism (compared with the view of Stuart Mill). The last chapter discusses Spinoza's conception of the principle of identity and opposition. Prof. Vold concludes with a brief summary of the leading ideas of Spinozism. His system is built on the supposition that truth consists in the presentation in thought of an objectivity existing externally and which therefore is accessible for men. Knowledge besides expresses a causal relation and consequently definition of two realities, *viz.*, subject and object. Adequate knowledge demands that thought, besides its existence as thought, embody an objectivity wholly independent of itself (which with Spinoza is expressed by the term extension), wherefore it follows that the Criterion of truth is to be found in the quality of our thinking in regard to thought (i tænkingens karakter af tænkning), *i.e.*, in the logical sequence. As an act of judgment is to be taken as a process in concepts, so may all existence be comprehended by means of a principle, the actual definite thought by means of thought as such, *i.e.*, as an element in the absolute or divine thought, the bounded extension as a part of the divine extension. Thought and extension can thus be thought of absolutely and between these absolute realities there may exist some relation as between subject and object of knowledge. All existences, including the human soul and the human body, are thus to be conceived modes in a divine attribute. All being is to be thought of as a synthetic-analytic process from God to nature and inversely; these two processes are combined in a higher unity in substance as *causa sui*, even as in human thought the double process is united in a higher intuitive stage.

We leave Prof. Vold's able work with the expectation that before many years have elapsed he will publish the results of his research in a special subject belonging to the departments of psychology and philology.

The space at our command will only allow a few sentences on Prof. Monrad's Æsthetics. His work is the result of a profound study of Plato, Aristotle, and Plotinus among the Ancients, and of Kant, Hegel and Vischer among the Moderns, combined with the observation of the types to be found in nature and art. The first book is devoted to the investigation of the idea of beauty from the subjective and objective side. The second book traces the idea of beauty in inorganic and organic nature. The third book enters with great fulness into the idea and problem of beauty in art and of its manifestation in Architecture, Sculpture, Painting, Music, and Poetry. We shall only add his description of beauty. As regards form he defines it as that which has unity in manifoldness; but in this manifoldness, unity, the law of form, exercises a dominant influence over the parts, which are nothing in themselves, but only a mechanical outcome of the law of unity, so that even where individual parts seem to forsake the general rule, yet have they the principle ruling the whole inherent in them, so that they coincide with the general law of harmony. The real beauty he defines as that which is expressive (udtyksfuld), so that the contents are set forth with a suitable measure of clearness and completeness, and that the form show itself as naturally springing from the contents. The idea of perfect beauty, according to Prof. Monrad, is that of a representative both of the supersensuous boundless idea, and of the sensuous bounded phenomena, in which the idea reveals itself in the phenomena, and the phenomena shines forth in the light of the idea.

ALEX. WITHER.

Mr. C. W. Opzoomer, Een herinneringswoord door Jhr. B. H. C. K. VAN WŸCK, Hoogleerar te Utrecht. Utrecht: C. H. E. Breÿer, 1893. Pp. viii., 88, with portrait.

This memorial notice of Opzoomer, who died last year, was drawn up at the request of the Dutch Royal Academy of Sciences by his faithful pupil, friend, and successor in the Chair of Philosophy at Utrecht. Professor Van der Wÿck has discharged his task with admirable judgment and taste, and has given an impartial and instructive account of the philosophical development and work of the distinguished Dutch thinker. He treats of Opzoomer as a philosopher, as a jurist, as a writer, and as a man. The philosophy of the founder of the empirical and critical school in Holland is expounded with great lucidity, and its relations on various sides concisely elucidated. His work as a jurist is also well indicated and estimated. Opzoomer was a born artist, and the ease and fluency of his style are deservedly commended. His upright, cheerful character, grave dignity, added grace to all his work, and secured the admiration and affection of his many friends and pupils. Notwithstanding his disappointment at not being transferred to the Chair of Philosophy at Leyden, he lived a successful and happy life, and during the protracted illness and weakness of his last years he showed a noble example of patient suffering and resignation. "Zacht ruste Opzoomer's assche!"

Received also :—

J. S. Mackenzie, *A Manual of Ethics*, London, W. B. Clive & Co., 1893, pp. xxvi., 339.

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A. Seth, *Hegelianism and Personality*, Edinburgh and London, W. Blackwood & Sons, 1893, pp. xv., 242.

Quain, *Elements of Anatomy*, edited by E. A. Schäfer and G. D. Thane, vol. iii. pt. i., London, Longmans, Green & Co., 1893, pp. iv., 217.

J. H. Tufts, *Kant's Teleology*, Chicago, University Press, 1892, pp. 48.

E. Durkheim, *De la Division du Travail Social*, Paris, F. Alcan, 1893, pp. ix., 471.

E. de Roberty, *La Recherche d' L'Unité*, Paris, F. Alcan, 1893, pp. 230.

E. Joyau, *La Philosophie en France pendant la Revolution* (1786-1795), Paris, A. Rousseau, 1893, pp. 305.

E. Compayré, *L'Évolution Intellectuelle et Morale de L'Enfant*, Paris, Hachette et Cie., 1893, pp. xxiv., 371.

H. Vaihinger, *Commentar zu Kant's Kritik der reinen Vernunft*, Bd. ii., Stuttgart, Berlin, Leipzig, Union Deutsche Verlagsgesellschaft, 1892, pp. viii., 563.

G. Spicker, *Die Ursachen des Verfalls der Philosophie in alter und neuer Zeit*, Leipzig, G. Wigand, 1892, pp. v., 280.

H. Rickert, *Der Gegenstand der Erkenntniss*, Freiburg i. B., J. C. B. Mohr, 1892, pp. 89.

L. Gumplowicz, *Sociologie und Politik*, Leipzig, Duncker und Humblot, 1892, pp. 160.

C. Gutberlet, *Die Willensfreiheit und ihre Gegner*, Fulda, Fuldaer Actiendruckerei, 1893, pp. 271.

M. Offner, *Ueber die Grundformen der Vorstellungsverbindung*, Marburg, Universitäts Buchdruckerei, 1892, pp. 67.

F. Maltese, *Esodo*, 2 vols., Vittoria (Sicilia), Velardi e Figlio, 1892, pp. 230, 230.

Pietro Ceretti, *Saggio circa la Ragione Logica di tutte le Cose*, vol. iii., *Essologio*, Torino, Unione Tipografico-Editrice, 1892, pp. 1491. (In two parts.)

Notice follows in all cases.

VIII.—PHILOSOPHICAL PERIODICALS.

The Philosophical Review.—No. 7. O. Pfleiderer—The Philosophy of Religion. [Philosophy of Religion has (1) to ascertain the essence of religion by psychological and metaphysical investigation and (2) to trace the stages of its historical evolution at once in external historical experience and in the facts of inner personal life.] J. Clark Murray—An Ancient Pessimist. [Treats of Hegesias the Cyrenaic. The Cyrenaics had originally taught that pleasure is the *summum bonum* and that it is attainable by virtue. Theodorus, however, denied that virtue led to happiness. Hegesias went further and denied that happiness was attainable, while continuing to regard it as the chief good. Thus the only reasonable end, according to him, was avoidance of pain. Cicero mentions him as an advocate of suicide.] F. C. French—The Concept of Law in Ethics. ["In early times legal and moral ideas were indiscriminately combined under the general notion of customary law." Morality begins to be discriminated from mere legality when unwritten is distinguished from written law, as in the well-known speech of Antigone in *Sophocles*. The next stage is the distinction between *nature* on the one hand and *law* as the enacted will of human beings on the other. This idea of law, which in its first tendency was "subversive of all morality," is traced back to the Sophists. The Stoics represented the order of nature as expressing a law enacted by a universal reason as order in human conduct is brought about by enactments of human reason. On this conception of cosmic law they based their ethical system. "The grand principle of human life (in their view) is to live according to nature—to conform the individual to the universal and rational." "The universe is one city governed by one law of nature; and hence all rational beings, as subjects of this law, must be fellow-citizens of the one world city." "This Stoic notion of natural law furnished an ideal and ethical basis for the practical legal institutions of Rome." In spite of the opposition of the founder of Christianity to the legalism of the Scribes and Pharisees and his insistence upon 'inwardness,' Christian Ethics assumed a decidedly jural form. The reasons are assigned for this by Prof. French. (1) The Hebrew origin of Christianity; (2) The constant effort of the early Christians to have as little as possible to do with secular courts, and to substitute their own "divine code" for the civil code. "The moral maxims of the new religion, taking the place of all civil law for 300 years, became stamped themselves with the jural form; (3) Roman influence. "The mere translation of the New Testament into Latin gave to Christian doctrine a decidedly jural tone"—the very language being saturated with legal concepts. In the ethical system of Thomas Aquinas the notion of law occupies a highly prominent, if not the first, place—law being for him primarily and ultimately the command of God. Modern Philosophy previous to Kant substituted for this Theological Conception that of the law of nature, thus reverting to the Stoic point of view. With Kant originates the conception of the moral law as imposed on man by himself through the autonomy of Reason.] H. Griffing—J. H. Lambert: A Study in the Development of the Critical Philosophy. [Proceeding from evidence derived from the correspondence between Lambert and Kant, the writer argues that it was probably Lambert's view "that formed the starting-point of the Kantian conception of the transcendental ideality of time and space".]

American Journal of Psychology.—Vol. v., No. 2. W. L. Bryan—On the Development of Voluntary Motor Ability. [Gives an account of an elaborate and apparently very careful series of experiments (1) on the "maximum rate of voluntary rhythmically repeated movement" in boys and girls and of its increase and decrease as determined by age; (2) on the precision of movements in the same subjects and its variation according to age. Many results of more or less interest are obtained. "The amplitude of movement may be changed within wide limits without affecting the rate." The period from twelve to sixteen in girls and thirteen to sixteen in boys exhibits in turn acceleration, decline, and recovery of rate ability. In normal individuals the precision of voluntary movement is subject to much greater variation than is the maximum rate of movement. Increase in accuracy is much greater in the two or three years following the age of six than later.] J. E. Le Rossignol—The Training of Animals. A. Dogs. [Bibliographical.] J. Jastrow—On the Judgment of Angles and Positions of Lines. [(1) The subject was required to reproduce angles of 15°, 30°, 45°, and so on up to 165°. One side of each angle was given and the lines were drawn on square pieces of paper with one line parallel to the side of the square. The result was that angles with a small excess over 0° or 90° were more exaggerated or less underestimated than angles with a greater excess over 0° or 90°. The smallest and largest angles form an exception to the generalisation that acute angles are underestimated and obtuse angles overestimated. (2) The positions of lines were reproduced without reference to any but imagined co-ordinates. The absolute error was small and on the whole consisted in an overestimation of the angles—greater with obtuse than with acute angles. No definite law could be formulated owing to the irregular variation of the results.] C. M. Child—Statistics of "Unconscious Cerebration". [An interesting and valuable statistical investigation, after the method of Galton, of subliminal process leading to recall of names, waking at a given hour determined upon before going to sleep, solution of problems which had defied conscious effort, and spontaneous occurrence of novel ideas or discoveries. Over ninety persons were examined. The questions were well chosen and searching. Making all reasonable allowance for the inevitable roughness of the statistical method, the results certainly show that striking instance of mental process taking place in detachment (? complete) from the main stream of conscious life and issuing in a result which appears in consciousness are by no means uncommon occurrences.] M. W. Calkins—Experimental Psychology at Wellesley College. Under the head of Psychological Literature, Prof. Baldwin gives an account of recent papers on Action and Volition.

Brain.—Pts. lix. and lx. A. D. Waller—On the Functional Attributes of the Cerebral Cortex. [An interesting though somewhat speculative discussion. Stress is laid throughout on the inseparable union of sensory and motor process. Every excitation is *ipso facto* also a discharge. An attempt is made to show an essential affinity between "Wundt's theory of an apperceptive centre, Jackson's highest level centre, Ferrier's doctrines *re* pre-frontal cortex, Munk's psychical area". Dr. Waller takes occasion to defend his paper on the "Sense of Effort" against the objections of Müller and Delabarre.] J. Michell Clarke gives a copious account of recent literature relating to hysteria.

Part xxiii. of the Proceedings of the Society for Psychical Research commences with the paper read by Prof. Delbœuf, at the International Congress of Experimental Psychology held in August last, on

the appreciation of time by certain "somnambules". It gives an account of experiments on two rustic girls, who were ordered in the hypnotic state to perform several acts post-hypnotically at intervals varying from 350 to 3300 minutes; the time being always stated in minutes in giving the order. The degree of accuracy with which the orders were accomplished, taken together with the very limited power of calculation possessed by the girls, seems to M. Delbœuf to point to an unconscious power of measuring the lapse of the time, of which the *modus operandi* is at present inexplicable. Mr. Myers continues his series of articles on the "subliminal consciousness". In the present number he deals with "sensory automatism and induced hallucinations": treating chiefly but not solely of hallucinations self-induced, with the aid of some simple instrument; visual hallucinations being facilitated by gazing into the polished surface of a globe of crystal or glass, or a glass of water, auditory hallucinations by holding a shell to the ear. Both these methods of obtaining hallucinations are known to students of the history of divination: but their use for purposes of psychological experiment is comparatively novel; and the experiments on shell-hearing here briefly recorded are probably the first of their kind. A certain portion of the hallucinations described—but by no means all—are regarded by Mr. Myers as evidence for telepathy or clairvoyance; and, from this point of view, are compared with the external facts to which they are held to correspond. There are further two papers in which results of experiments in thought-transference are carefully recorded: one by Dr. A. Blair Thaw, and the other by Mrs. H. Sidgwick and Miss Alice Johnson. The degree of success attained by Dr. Thaw, who experimented chiefly with Mrs. Thaw and a friend, does not appear to have been brilliant; though the coincidence between guesses and facts is certainly greater than a calculation of chances would have led the experimenters to anticipate. In the case of the results obtained by Mrs. Sidgwick and Miss Johnson, the hypothesis of mere chance coincidence is driven to a higher and more definitely calculable degree of improbability: since in guessing numbers of two digits, drawn at random from a bag containing all the numbers from ten to ninety inclusive, twenty-seven completely right guesses were recorded in 252 trials. The odds against this happening by chance are, as the writers of the paper say, enormous: and since the experiments were made with the "percipient" and the "agent" —each attended by an experimenter—in different rooms, or respectively in a room and a passage divided by a closed door, it is difficult to see how the ideas could have been conveyed through the ordinary channels of sense, without an elaborate conspiracy of deception. The paper also contains a long description of experiments in thought-transference of mental pictures, with agent and percipient in the same room: and also an account of experiments in the production of local anæthesia and rigidity, apparently by mental suggestion. These latter are similar in kind to the experiments by Edmund Gurney described in vol. v. of the *Proceedings* of the S. P. R., but they carry somewhat further the exclusion of possible suggestions through the ordinary channels of sense.

In the INTERNATIONAL JOURNAL OF ETHICS Professor Giddings writes on "The Ethics of Social Progress"; his article contains a good deal of disputable sociology delivered in an overdogmatic tone, but his refutation of socialistic fallacies is clear and effective, and his general forecast of the future progress of society is sober and judicious. "The ethical consciousness of society" he holds is demanding, in a manner "daily more imperative," a "public and private philanthropy that shall be governed

by the results of scientific inquiry". For the practical solution of the problem two difficult things must, he thinks, be combined, "to convince one set of people that society ought to assume the costs of its" industrial "progress, and so far as possible take openly the responsibility for replacing the displaced"; and to convince another set of people "that at all times a portion of mankind must be relatively useless to the community, and for that reason, relatively poor; and that their greatest possible utilisation and compensation depend on their being held for the while in practical subjection to other individuals or to the commonwealth". Accordingly, Prof. Gidding proposes—besides more familiar remedies for social evils—the "enslavement" of tramps. The Rev. Dr. Cunningham writes on "Political Economy and Practical Life"; his chief suggestion for practical life is a variation of Mr. Booth's scheme of old-age pensions, restricting its advantages to poor persons who have never during their working life been the recipients of parish relief in any form. Besides these there is an article by Professor Mary E. Case, answering in the negative the question, "Did the Romans degenerate?" and Dr. Richard Meyer writes at length on "German character as reflected in the national life and literature". It is noteworthy that of the four articles the two that are not historical are mainly economic: which suggests a doubt whether Dr. Cunningham is right in thinking that there is a "general and increasing apathy about economic science". The reviews are as usual abundant and mostly interesting; and a "Report on the recent literature of ethics and related topics in America" by Professor Royce is a commendable feature of the journal.

Revue de Metaphysique et de Morale.—Première Année, No. 1. We heartily welcome this new periodical, which, as we gather from M. Leon's Introduction, is to be the organ of a speculative movement among the younger students of Philosophy in France. All success to them! F. Ravaisson—Metaphysique et Morale. [A vindication of Metaphysics against positivist criticism and an assertion of the dependence of ethical on metaphysical doctrine. The article consists in great part of a bright and clear sketch of the History of Philosophy showing its progressive developments as marked by a series of epoch-making names.] F. Rauh—Essai sur quelques Problémes de Philosophie Première. [An interesting paper, full of close analyses, but rather hard to grasp and almost impossible to summarise. It begins with an analysis of the fundamental certainty of self-consciousness as formulated by Descartes. This involves the affirmation,—it is *true* that I think. The faculty of distinguishing between truth and falsehood is presupposed in it. Reflexion on this fact enables us to see wherein the form or essential nature of truth consists. Truth is not anything separable from our cognitive consciousness itself. It does not imply the separate existence of any object distinct from thought itself. Yet it is not dependent on the momentary act of thinking as an occurrence in the history of the individual. It rather consists in the *validity* of the thought, and so regarded it is immutable and eternal. "It is thus a kind of internal necessity, which, though it is not distinct from the intellectual consciousness itself as something extraneous to it, yet constitutes its object." This pure and primary intellectual certainty is at the same time a moral certainty. "If I cannot doubt that I think, while I am thinking, it is nevertheless within my power to think or not to think, to exercise my reason or not to exercise it. Before recognising itself as logical intelligence, the intellectual consciousness must posit itself" as free practical activity. This analysis of self-consciousness furnishes M. Rauh with

a point of departure in the treatment of the leading problems of Philosophy.] H. Poincaré—Le Continu Mathématique. [The writer considers the following questions: What precisely is the *continuum* of mathematical Analysis? What is the origin of the concept? Is it final? The ordinary definition is that the totality of all real numbers commensurable and incommensurable is the *continuum*. M. Poincaré points out that this is not a *continuum* in the metaphysical or physical sense, but that mathematicians have the right to their definition, since the concept so defined is always the actual subject-matter of analytical reasoning. After an account of the mathematical necessity for the introduction of incommensurables, he passes to the consideration of the origin of the concept. This he finds in the 'contradiction' inherent in 'physical continuity': two things indistinguishable from the same thing may be distinguishable from each other. To escape this contradiction, he says, the mind is forced to 'create' a series of symbols—the series of all rational numbers, integral and fractional. This series and all others constructed according to the same law he proposes to class under the name *continu mathématique du première ordre*. But there is a second series of 'contradictions' inherent in geometrical continuity, which can only be avoided by the introduction of incommensurables. The mind is forced to 'create' fresh symbols. Hence arises what M. Poincaré proposes to call *continu mathématique du deuxième ordre;* and this, he says, is the 'continuum' of Mathematical Analysis. It is nothing but a particular series of symbols 'created' by the mind, free from internal contradiction, and from contradiction with various propositions called intuitive but really derived from empirical notions. Finally M. Poincaré asks two questions: (1) "Is the creative power of the mind exhausted by the creation of the *continuum mathematicum?*" and (2) "Once in possession of the concept of the *continuum mathematicum* is it possible to escape from all contradictions analogous to those which gave rise to the concept?" He answers both questions in the negative. He cites, in illustration of the first question, the conception of the possibility of inserting between two infinitesimals, whose orders are infinitesimally different, an infinitesimal which may be as small as we please in comparison with that of the lower order and as great as we please in comparison with that of the higher order. The consideration of such cases gives rise to what he proposes to call the *continu mathématique du troisième ordre*. He cites, in illustration of the second question, the case of a curve which has no tangent, in which he finds a new 'contradiction' between intuition and Analysis. We cannot help thinking that M. Poincaré's notion of mathematical *continua* of different orders is misleading. It seems to us that the so-called *continuum* of the first order is a discrete aggregate, having none of the properties of a continuum except divisibility. Again, as it seems to us, the so-called *continuum* of the second order either is not the subject-matter of Mathematical Analysis, or it leaves no room for the possibility of the *continuum* of the third order. Without venturing to answer in the affirmative M. Poincaré's two questions we think we can dispose of his examples. What does the statement about infinitesimals of various orders mean if it does not refer to the possibility of assigning a law for the approximate calculation of a limit to a series of numbers? If it means this, the limit is included in that *continuum* which is the subject-matter of Mathematical Analysis. With regard to the curve which has no tangent, the only 'contradiction' that we can discover is between two definitions of the notion 'curve'. The curve of Geometry or Analysis, defined as a boundary or as the expression of a relation

between variables, can be shown to include something that is not included in the kinematical notion of a curve as described by a moving point. But the new thing cannot be intuited. We can have no intuition about a curve which cannot be conceived to be drawn. A. E. H. L.]

Revue Philosophique.—17me An., No. 12. E. Lannes—Le Mouvement Philosophique en Russie: II. La Philosophiè de Hegel et les Cercles Philosophiques. F. Paulhan—La Composition Musicale et les Lois Générales de la Psychologie. [Applies the principle of systematic association to the case of music.] Marillier—La Psychologie de W. James (2nd Art.). [Treats (1) of James's Heracleitean theory of mental process according to which two presentations occurring at different times can never have an identical quality; (2) of the doctrine of fringes and of the distinction between transitive and substantive states; (3) of the analysis of personality and the theory of self-consciousness which identifies the cognitive subject with each momentary thought as it emerges.] Among books reviewed are Renouvier's *Principes de la Nature* and Weismann's *Selection and Heredity*.—18me An., No. 1. L. Marillier—La Psychologie de W. James (3rd Art.). [Expounds and discusses James's doctrine of Attention, Conception, Discrimination, Comparison, Association, Reasoning, the Time-Perception, Memory. M. Marillier thinks that psychical Fringes are really obscure imagery—to which there are only two objections: (1) that they are not images, and (2) that they are not always obscure. He would also substitute relative intensity of presentation for selective attention as conditioned by interest.] J. J. Gourd—La Croyance Metaphysique. L. Couturat—La Beauté Plastique. —No. 2. Paul Janet—L'Unité de la Philosophie. [Defines philosophy as thought about thought. "Science thinks of the world; philosophy thinks of the thought of the world." From this point of view, Materialism, Positivism, the Subjective Phenomenalism of Mill and Taine, Criticism, and Metaphysical Idealism (under its two forms, Spiritualism and Pantheism) are subjected to a critical comparison.] J. Combarien—L'Expression objective en Musique. [A careful analysis of the means and methods by which music is able to imitate objects.] L. Marillier—La Psychologie de W. James (concluded). [Opposes James's view that there is a difference in kind between impression and image and between their physiological concomitants; an account is given of James's theories of the space-perception, of belief, of the emotions and instincts, and of the will.]

Philosophische Studien.—Bd. viii., Heft 2. A. Kirschmann—Beiträge zur Kenntniss der Farbenblindheit, i. [The first part of what promises to be a most interesting investigation. (1) Prolegomena. (2) Diagnosis of colour-blindness. (3) Experimental results. (*a*) A bipolar system, with its saturation-maxima in yellow and indigo-blue. (*b*) A case of yellow-blue-green-purple blindness. (*c*) A red-green case. (*d*) Spectral colours are only blue and yellow. (*e*) An exceedingly important and well-examined case of violet-green-yellow blindness. The affection is congenital and unilateral. Critical remarks as to the explanation of these cases on the basis of the Young-Helmholtz and Hering theories are appended.] E. B. Titchener—Ueber binoculare Wirkungen monocularer Reize. [An attempt to show that stimulation of one retina occasions an excitation-process in the other. The psychophysical results are supported by recent physiological discovery.] O. Kuelpe—Das Ich und die Aussenwelt, ii. [Conclusion of this epistemological study, from Bd. vii., pp. 394 ff.]

ZEITSCHR. F. PSYCH. U. PHYSIOL. D. SINNESORGANE.—Bd. iv., Heft 3. A. Pick—Ueber die sog. Conscience musculaire (Duchenne). [Duchenne had noticed that in certain cases of total loss of the cutaneous and deeper-lying sensibility, the patients, if prevented from seeing their extremities, were unable to execute voluntary movements with them. The old view was, that the control by this one sense took the place of all the usual sensible controls. The author (*Neurol. Centralblatt*, 1891) substitutes for this the theory that it is the sensory attention which is the determining factor. He gives an historical and critical account of previously reported cases, and a record of his own experiments. The article would be much easier reading if its arrangement were better.] C. Ladd-Franklin—Eine neue Theorie der Lichtempfindungen. [A theory most nearly resembling that of Donders. There are two sorts of "molecules" in the retina—primitive grey molecules, and colour molecules—which have arisen from these by differentiation. The paper is a preliminary communication only.] Litteraturbericht.—Bd. iv., Heft 4 and 5. A. Koenig u. C. Dieterici—Die Grundempfindungen in normalen und anomalen Farbensystemen, und ihre Intensitätsvertheilung im Spektrum. [A preliminary note on this investigation was published in 1886; and Helmholtz made its results the basis of his articles in the *Zeitschr.* of 1891 and 1892. Monochromatic, dichromatic, and trichromatic systems are investigated. The authors distinguish between the phrases "elementary" sensation (no presupposition) and "ground" sensation (Donders' fundamental colour; presupposition of a simple nervous process). They differ from Hering (1) in not identifying monochromatic sensation with trichromatic white; (2) in sharply separating off red-blindness from green-blindness. It is impossible to give an adequate summary of the paper (107 pages) here. The writers conclude that, of the three ground sensations, the Red is a red inclining a little towards purple; the Green has the wave-length (about) 505$\mu\mu$.; the Blue, the wave-length (about) 470$\mu\mu$. Interesting is their confirmation of the fact (Rayleigh, Donders) that there are two distinct types of trichromatic systems. The article stands, of course, in close relation to the other recent publications of the school of Helmholtz (*Beiträge*, &c.).] K. L. Schaefer—Ist eine cerebrale Entstehung von Schwebungen moeglich? [A criticism of E. W. Scripture's paper "Ueber Schwebungen und Differenztoene," in the *Phil. Stud.*, vii. Scripture's results can be explained otherwise than as he explained them; he forgot to take account of "physiological deafness".] S. Fuchs—Ueber einige neuere Fortschritte in der Anatomie und Physiologie der Arthropodenaugen. Litteraturbericht. A lengthy notice, by F. Tönnies, of Simmel's "Einleitung in die Moralwissenschaft".

VIERTELJAHRSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE.—Bd. xvii., Heft 1. A Riehl—Ueber den Begriff der Wissenschaft bei Galilei. [Galileo investigates the *laws* of natural process instead of its causes; his method lies in the conjoint use of mathematical analysis and experiment.] R. Wlassak—Die statischen Functionen des Ohrlabyrinthes und ihre Beziehungen zu den Raumempfindungen (Schluss). [Summary of Mach's experimental results. A general formula for space-sensations is proposed. They are connected with annulment of changes in sensation by corresponding compensative movements.] H. Cornelius—Ueber Verschmelzung und Analyse (Schluss). [Follows up previous paper by investigating the fusion and analysis of simultaneous visual sensations, with results similar to those obtained for auditory. It is then shown that these processes occur also without essential difference in the case

of successive sensations. An attempt is made to connect the theory of fusion and analysis with Ehrenfels' investigation of Form-qualities. Finally, a general view of our intellectual life is propounded according to which it consists in the progressive analysis of the total presentation constituted in each moment by present sensations, and the residua of past experience blended into a single whole. The doctrine is not new, but it is not nearly so familiar as it deserves to be; it is very clearly and convincingly stated by Cornelius. A very good paper.] Chr. Ehrenfels —Werth-theorie und Ethik I. [Takes the economic conception of final utility as point of departure in the psychological analysis of the meaning of utility and value. A good article.] E. G. A. Husserl—A. Voigt's èlementare Logik' und meine Darstellungen zur Logik des logischen Calculs. [Personal polemic.] Anzeigeń, &c.

Philosophische Monatshefte.—Bd. xxix., Heft 3 and 4. H. Heineck —Die älteste Fassung von Melancthon's Ethik. [A previously unknown manuscript of the 'Epitome ethices' is published.] K. Lasswitz—Die Moderne Energetik in ihrer Bedeutung für die Erkenntniss-Kritik. [Treats of the relation of energy and its transformation to sensible qualities. "Temperature, brightness, tone are as much 'Energy-factors' as volume, mass, or rapidity." They are not in any special sense subjective.] F. Staudinger—Die sittliche Frage eine sociale Frage. [Discusses the views of F. Lange and Th. Ziegler's "Die sociale Frage eine sittliche Frage".] B. Erdmann—Johann Eduard Erdmann. [An interesting biographical sketch, and a full bibliography.]

Zeitschrift für Exacte Philosophie.—Bd. xix., Heft 3. G. Turié —Der Entschluss in dem Willenprozesse. C. S. Cornelius—Zur Theorie des Hypnotismus. Chr. A. Thilo—Ueber den Begriff der Kausalität bei Plato und Spinoza. Besprechungen.

Zeitschrift für Philosophie und philosophische Kritik.—Bd. ci., Heft 2. A. Döring—Doxographisches zur Lehre vom τέλος. A. Wreschner—Ernst Platner's und Kant's Erkenntnistheorie. A. Lasson —Jahresbericht über Erscheinungen der philosophischen Litteratur in französischer Sprache aus den Jahren, 1889 und 1890. Dr. Ferdinand Tönnies contributes an obituary notice of Professor G. C. Robertson.

IX.—NOTES.

GEORGE CROOM ROBERTSON AS A TEACHER.

I speak as one who only came to know Croom Robertson in recent years, when he had nearly accomplished a term of respite between two attacks of the malady which finally carried him off. His exposition of ethical hedonism,—it was the middle of the session,—was tinged with the gloom of it. "Why look ahead," he asked, "to pleasure or a neutral object? It is sufficient to be wanting riddance of pain. We can resolve to do without positive pleasure, but we cannot live with pain and discomfort. . . . Such are the hard conditions of life, that much of our action is to avoid pain, and no calculus is necessary *here*." A speaker of robust vitality might have said as much with a wry smile of humour, but he uttered it with a look of *color che sanno* in his face not easy to forget. It was not often indeed that he looked other than jaded and 'driven' when he entered his class-room, promptly closed the window next him, or else drew on with swift dexterity his black silk skullcap, and took his seat. A guide of *la grande montagne* once said as we set out, 'One should always start as if one did not quite know what one meant to do'. Under-assertiveness of this kind characterised the beginning of Croom Robertson's lectures. He did not exactly 'fool around,' but, placing in front of him a minute porte-feuille of notes, which he never consulted, he would commence, gazing side-ways up the sky, in a high-pitched, weary, distant voice, the words dropping from him clear and rhythmic, but with detachment and indifference. This at least was his usual way while he recapitulated 'last day's' lecture, often clothing his previously expounded arguments in an entirely fresh dress. To take the first instance I find, after setting forth the nature of ethical philosophy and its connexion with logic and æsthetics, he opened thus, the week after: "The fact that we *can* distinguish these three regulative bodies of doctrine,—mutually independent,—mutually unresolvable,—exhaustive, is to be regarded as a decisive argument for the tripartite division of mind. In psychology it is often hard to isolate the three and secure independence for them, but we can distinguish well enough that Intellection in the end has to be made True, Conation in the end has to be made Good, Feeling has to be raised to the grade of the Beautiful. And we cannot add hereto. The summary is exhaustive. True, we must discount from Intellection all save 'thinking' to come under the regulation of Logic; still we can fairly enough say that Logic regulates Intellection."

But this apathetic phase was short-lived. Energy either grew upon him as he broke fresh ground, or blazed up suddenly, but it never failed to respond to the mute demand in the eyes that were attentive, to the need in those that looked carelessly, and to hold us in the sleepiest hour of the student's day, wakeful, spell-bound, as though not logical sequence alone, but δύναμιν ἐξελθοῦσαν from the ardent, eloquent spirit were stirring one and all to receptive activity. His own illustrations bear me out in part. "You might say that, whereas I was silent for one moment, and speaking the next, here was action going out, but no afferent stimulus. In a better example we might see this, but just then I had before me the sight of your expectant faces." Session after session discovered him delivering each to him familiar and well-worn stage of the "element-

ary" course to which the Grote professor is bound down, with all the zeal and zest of an entirely fresh exposition. And careful as he was to impose none of his own strong convictions as dogmas, no words can adequately convey the intense earnestness of manner and speech with which he sought to carry the listening intelligence up to commanding standpoints. "*I want to give you* a notion of how, from different points of view, this question of defining the conditions of knowledge has been met." "I want to bring prominently before you this OBJECTIVITY of knowledge . . . . I know NOTHING REALLY, unless I can show you capable of knowing it *as well as I*." "But mark me here—I PROTEST against ranking our experience of space with that of other sensations!" "I WARN you against such careless phrases as 'Brain thinks';—it's *stark nonsense!*" "As to the specific character of the nerve-process accompanying every mental process, we are much in the dark and shall ever be probably. Till we are *not* in the dark, till it can be demonstrated in detail, *no one can compel you to accept* the general statement." Not less vigorous was the emphasis with which he set forth his own position, when need arose to submit it as non-coincident with the theories of other thinkers. "Now for a confession!" was the exclamation introducing his dissatisfaction as an experientialist, with experientialist theories of external perception: "Else I *can* not get on!" the concluding alternative. But it is not possible by fragmentary citations to reproduce the intense fervour with which all such asseverations were put forth, infusing the dryest arguments with the character of things beautiful. Leaning often far over the table as though he would project his own insight into his *parvulos trahendos*, he seemed to be wrestling with the ignorance, or callousness, or false views in each several mind, his glance for the most part directed just over the heads of the class, yet apparently cognisant of each student's mental progress. Inattention was as difficult as interruption: when once a student broke a momentary pause by putting a question, the professor, as though unaware, resumed his argument forthwith, and talked through questioner and question more fervently than ever. I hasten to add that the more usual mode of hearing questions from the chair at the end of the lecture was not merely permitted. "You will be failing in a *positive duty* if you omit to bring me any difficulties. But let me advise you to write them down: half and more of your difficulties will vanish when once you have put them into definite form." Nor were his counsels accessible on these occasions only. At any time during term or vacation, the appeal of perplexity would secure a prompt reply, crowded more often than not into the back of a post-card,[1]—a deliverance *urbi et orbi*, as he once said to me in humorous apology, pleading the delicacy of his then dual function of professor and examiner.

Yet let it not be supposed that this fervid manner, which, as Dr. Bain truly says, spent his limited strength far too lavishly, beat out earnest and emphatic monition and assertion incessantly. It would have failed in effect. He never laughed, he could not really be said to smile, *ex cathedra*, but touches of humour, like rays of frosty sunshine, not seldom lit up the less crucial phases. It was more revealed in the manner of saying than in any word-play, but I can remember such as these: "Smells are to quadrupeds rather intellective than emotional, especially to dogs, for instance. Why? They cannot afford to be as we. We can turn up our noses, as they cannot." (Possibly not an original point.) "We Scotchmen 'feel a smell,' and with considerable psychological

[1] [With Prof. Robertson the writing of post-cards was a fine art.—G. F. S.]

justification." "Is *Space* a form of external sensation?—I omit *Time*,—for lack of it." An Aristotelian alternative was reverted to with complacency: "Every step in thought that proceeds under the laws of thought may be expressed in terms of necessity. Deny—and you are a vegetable!" In his discourses on the works of special philosophers the relative freshness of the subject and the relatively intimate discipleship of fewer, more appreciative hearers, drew him on to somewhat happier and even more vivacious disquisition. Few could be more jealous than he to wave off flippant criticism of thinkers past or present on the part of the novice; on the other hand, he gave free play in that closer circle to the promptings of his own matured satire, in racy allusions to the quarrels of commentators, the defects of theories, Oxford psychology, and what not.

But wherever and whenever his voice was raised to instruct, his utterances were invariably characterised by a severe and concentrated eloquence—an eloquence which clothed every thought in purest English, which never ran away with him, which rigorously abstained from analogy and metaphor, and yet, impelled by full conversance with its matter, repeated each point in a double or triple paraphrase of words, securing a maximum clearness, and allowing each following mind to overtake and take in. At the same time there was no lack of illustration, and that of the simplest and next to hand. No place could be more depressing than the kind of class-room he lectured in, nevertheless he projected a tiger into the adjacent one to lend a spring to his criticism of Dr. Bain's Theory of Belief, he diverted the disturbing annoyance—exquisite to highly strung nerves—of noisy youths in the corridor to illustrate procedure in psychological analysis, he made the exasperating hour-bell bear witness to the ultimate constituents of mind, he made the ugly dado do service in spatially referring sensations, while the inartistic iron pillar, very much in the way as it always was, has become for all his students a "work outlasting monumental brass," the "obstacle" to typify the fundamental property of Resistance in objective perception, the dual symbol of the phenomenological *How* and the epistemological *What!*

No, there was not much excuse for a student of average abilities and application who failed to make headway at the feet of Croom Robertson. His expositions were so artistically disposed that it was comparatively easy to set down in notes without much pressure, not only the substance of what he said, but often the form as well. There was an entire absence of verbiage or 'padding'. The lecture never broke down into a talk; the sentences were terse, pithy, polished. But on the other hand he never hurried, nor even once introduced unfamiliar terms without carefully leading up to and determining them, while every point was reiterated with strenuous emphasis. What remained of the Scotch accent, which in his earlier London days he had been at much pains to smooth down, only served with its varied pitch, incisive accents and rhythmic cadences to throw his emphases into higher relief. To have technical terms dragged in from the books by way of answer to his catechising, which he himself had not led up to and introduced, thwarted him and called forth a rebuff, so fastidious was his procedure in guiding to new ground.

Mindful of "the notable and deplorable state of psychological and philosophical terminology," his own choice of nomenclature was, it need hardly be said, a model of studied selection, applied with unswerving consistency, and, when occasion arose, justified in detail. Instances are not far to seek in memory. He would not admit the *philosophical* study of Ideals of truth, goodness, and beauty into the category of sciences, reserving under the latter head purely phenomenological inquiries. The

term 'normative science' he practically ignored. Logic, Ethic, Æsthetic, dealing with what ought to be, as formulated by intellectual construction from data supplied by investigation into what has been, is, and, given certain tendencies, will, or may be, were for him "bodies of regulative philosophical doctrine". Again, he invariably used Intellection for Cognition, Conation for (simple) Volition. Cognition implied the committal of oneself to a *cognitum*, was used equivocally for both process and product. Intellection better connoted bare intellectual process or *coming to know*. Will and Volition were not simple enough for the ultimate conscious residuum denoted by *Streben* or *tendency to act*. Needing Affection equally, as the third complementary equivalent in psychology, he mourned over its crippled popular use. "Bain falls back on a term which is safe if carefully used: feeling is Excitement. Yet here too there is a narrower sense. 'To be affected' is after all the more *effective* term." "Idea" was too hopelessly ambiguous to be used technically. In intellection progress from simple to complex, regress from (sense) presentation to re-representation, were adequately indicated by Percept, Image and Concept. 'Thought,' on the other hand, was a valuable term practically thrown away by psychologists.

Nothing again is more characteristic of his jealousy for logical purity of diction than his deprecation of the use, in a theory of sensation, of such a term as 'sense of movement'. "To account for space from movement is to beg the question. Movement is only explicable in terms of *space*. One is aware of some *thing* going from one *place* to another. Active touch, touch with a coefficient of '*consciousness of activity put forth*, is all that sense (discounting active sight)' gives us." Another anxious monition was: "Never confound 'moral intuition' with 'moral instinct,'—the primitive power of judging with the primitive tendency, or ability to act,—knowledge not got from experience with action unlearned."

Carefulness in formal distinctions may seem to some mere academic logomachy and time lost. Not so to those who hold with a colleague of my late master that "the true aim of a teacher must be to impart an appreciation of method and not a knowledge of facts":[1] not so to those who are conversant, as to method, with the modification required in scientific analysis when applied to the matter, and adjusted to the standpoint of psychology and of doctrines based on psychological data. Consistency in concepts becomes of as much importance as order and cleanliness amongst the bottles and labels of the chemical experimenta. "To show this clearly—the *distinction* and the *bond*—that is my chief task; for many are incautious," were the words with which Croom Robertson would launch into an inquiry. In his hands the study of Mind became almost, if not quite, as forcible an organon for instilling the principles of scientific analysis as one of the experimental, quantitative sciences. To resolve the complex into the simple, to explain a phenomenon *in terms of* another category of phenomena, to find the *law of its happening*, to inquire into some particular *with reference to* some general notion, under a certain aspect, in a special connexion, and so forth, together with the testing questions applied to current definitions and theories, to elicit what was really the ground-idea of some class (with, it might be, some such verdict as this: "Whatever else Belief is, THIS is not the most fundamental aspect!")—all this really simple procedure, uniformly and consistently carried out, gradually and deeply impressed on the mind the unity of all scientific method. No text-books known to me, however

[1] Prof. K. Pearson. *The Grammar of Science*, p. 8, footnote.

substantially sound in procedure, would be likely to effect as much for the "self-taught" student in mental and moral science and philosophy. This at least was Croom Robertson's opinion, and he roundly denounced the extent to which candidates for examination in the subjects over which he presided at the London University sought to qualify themselves solely by systems of reading and written tuition, none the less that he on one occasion recommended this method to myself by way of *supplement* to oral teaching.

From beginning to end his course was one long lesson how to attain truth under the aspect of Consistency—the Larger Consistency which includes both formal and material agreement. And to this end he made his exposition, in each branch of his composite subject, a continuous and thorough-going application of the definitions and concepts with which he set out, so that the whole complex of notions fell apart and redisposed itself around some fundamental axis of thought. In this way for instance he made us grasp the rationalising of *all* formal logic under the "Laws of Thought," and of all applied or material logic by the process of evolving Induction out of Analogy. The subjective phenomenon of Conscience and the source of its dictates knit together the student's confused notions gained from ethical treatises: the subjective phenomenon of Reality, its sources and implications, imparted backbone to metaphysic.

"Distinction and the Bond," as the tonic chord, was from his opening lecture made most audible and explicit. He then planned out, as he told me, and grounded the whole of his procedure, according to his view of what constituted right method in approaching and cultivating the investigation of experience based on psychology regarded under its unique and more proper aspect of *the* Subject science. This I have heard him do by setting himself at the outset to rationalise, as if by way of apology, the present wording of the title of the Grote chair. Criticism of it served to launch him into a disquisition on the inter-relation between science and philosophy, so lucidly set forth as to give the crude learner insight into the real import of this new departure in his studies, clearing away the dust for those who had pictured a vague mass of something 'transcendental,' and revealing to those who imagined they were substituting for mathematics something requiring only a little common-sense and journalistic facility, the length and steepness of the way before them.

Without a thorough grounding in the science of psychology he would have no one stir a step in the systematic study of philosophy. Kant and many another illustrious thinker had by wrong procedure built on sand. To give more than merely logical priority to "First Principles" was "at this time of day" a regress from the method of sound induction. On the other hand, many British philosophers had stayed so long over their psychology that they never got to philosophy at all, or if they did spoilt their scientific analyses with it, not distinguishing what they were about. "Whereas the path of salvation lies in distinction." "Here I am mixing gloriously psychology with ethics," he once said joyously, "but at all events I confess to it, that it is not Ethics at all."

It is not possible in the scope of a memoir to do justice to an influence which quickened many lives for their life-time, nor, in any way, to duly appraise the resultant tendency of that influence in different personalities. In its intensely critical methods, whether these are applied to ordinary subjective experience, current theories or work sent in by students,—in which literary style and method were even more severely tested than matter,—it would, I believe, be of the nature of a highly regulative, often of an inhibitive, force, more effective for the fluent and

self-confident, than for the self-critical and diffident. Positive praise was a thing unheard of. Commendation might arrive now and then by very indirect communication, but directly could only be inferred through hope on the strength of absence of blame. Intentionally he had of course no wish to paralyse intelligent effort. "I think you are quite right to make this plunge," I once heard him say, "I have no faith in the waiting on counsels of perfection." But this is a minor matter. The indubitable and lasting benefit of his teaching was the insight it afforded into the working of a fine, profound judgment when confronting, and co-ordinating in its perspective, the complex continua of thought and life, so presented that the methods of that working were handed over as a heritage to the listener to be assimilated and applied in his or her own case.

And as to the substance of what he taught, seeing how thus untimely the hope has been cut off of receiving from his hands an integral view of his thoughts on any great questions of philosophy, the idea may suggest itself to some who heard these orally, whether enough of recorded material is not in their possession to enable any of his more competent contemporaries to synthesise and perpetuate what of it is chiefly and worthily distinctive.[1]

CAROLINE A. FOLEY.

HELEN KELLER.

["No mere faculty of expression, however, can account for the extraordinary faculties of this fascinating child. . . . We propose to return to the subject in the next number." A pathetic interest attaches to these words when we remember that the subjoined signature was that of the late Editor of MIND. The present writer has attempted to continue the examination of the Report at which Professor Robertson was engaged shortly before his lamented death.]

The reader is already acquainted with the method of instruction pursued in the case of this gifted child (pp. 575 *et seq.*); in the following pages we propose to give an account of those intellectual and moral characteristics to which the epithets "marvellous" and "extraordinary" may be applied without misgiving. We must remember that what is recorded of Helen refers to a life of but eleven years, in the last three of which she has been brought from darkness and perfect isolation to light and communion with her fellow-creatures.

Helen is an insatiable reader, has a remarkable memory, and a no less remarkable power of assimilation. Her reading causes her to live, as it were, a double life, the reflexion of which may be seen in her facial expression, so quickly and deeply is she impressed by all she reads. For example, after reading *Macbeth* (*Lamb's Tales*) she was greatly excited: "It is terrible! it makes me tremble!" After thinking a little while she added: "I think Shakespeare made it very terrible, so that people would see how fearful it is to do wrong." Her thoughtful nature is well exemplified by the answer she made to a sagacious person who asked: "Are you a Republican or a Democrat?" "I am on the fence. I must study civil government, political economy, and philosophy, before I jump." Her incidental references to her own affliction are indescribably touching. After hearing a poem on Beethoven she said: "I am 'wedded to silence' like the great master." She writes in a letter that the following lines from *Evangeline* "will always make

[1] [This suggestion will probably be carried out.—G. F. S.]

me cry": "Something there was in her life, incomplete, imperfect, unfinished," &c. Her quickness of perception is amazing. Examining the cast of a baby's face she spontaneously broke out:—

"A brow reflecting the soul within
Untouched by sorrow, unmarked by sin".

Many hours after examining a cast of Dante's face she asked how grief was brought with his life. But perhaps the best way of exhibiting her fascinating qualities, her perception, her imagination and power of literary expression, will be by the following extracts taken at random from her numerous letters, and from the conversations to be found in the Report.

"The mountains are crowding round the springs to look at their own beautiful reflexions. . . . I wish you could see the lovely fragile little thing (a new-born sister) that is curled up in mother's arms. . . . I found Mildred as shy and merry, and as lovely as a summer morn. . . . We have had several thunderstorms . . . (we) watched . . . the great black clouds chasing one another swiftly across the sky, seeming to growl angrily when they met, and sending bright flashes of lightning at each other like swords. I liked to fancy that there was an army of warriors living in the planet Mars, and another army of giants living in Jupiter, and that all the noise and tumult was caused by a great battle going on between them. The rain, I suppose, . . . shows that the warriors are sorry for their bad conduct and are weeping over the distress they have caused."

She can produce charades like the following by the dozen, and it is really extraordinary that a child with a "language life" of but three years should have so rapidly acquired such fluency of diction, and such a subtle perception of the meanings of words. "In storm but not in thunder—In tempest but not in wind—In hymn but not in song—In silent but not in mute—In compound but not in mixture—In cunning but not in cute. The whole a character in the Trojan war."

"Is it queer for a child to feel like laughing and crying all at once? But I remember Mother Nature did the same last summer. One day we discovered that it was raining quite hard on one end of the porch, while the sun shone out brightly on the other end. . . . That is just what is happening in my heart. It is raining on the one side, while the other side is bright with gladness." While she sat there thinking, "two dear little birds began to take their bath in the lovely sparkling water, that rippled and danced in the sunshine".

To Oliver Wendell Holmes she wrote: "I love every word of 'Spring' and 'Spring Has Come'. I think you will be glad to hear that these poems have taught me to enjoy and love the beautiful spring-time, even though I cannot see the fair, frail blossoms which proclaim its approach, or hear the joyous warbling of the home-coming birds. But when I read 'Spring Has Come,' lo! I am not blind any longer, for I see with your eyes and hear with your ears. Sweet Mother Nature can have no secrets from me when my poet is near." These few extracts will suffice to show Helen's command of language and her power of recognising the finer shades of meaning in the use of words. The reader will realise how difficult it must have been for the teacher to grapple successfully with the special obstacles which presented themselves in the attempt to give this child of eleven the meaning of words essentially abstract. In every case the simplest possible definition was given, and little by little the child divined the more abstruse significance of the word by its connexion with words already intelligible to her. Her

natural aptitude for language has been fostered by her love for books. "They tell me so much that is interesting about things that I cannot see, and they are never tired or troubled like other people. They tell me over and over what I want to know." At first she had a tendency to omit in conversation any word or phrase not absolutely necessary to convey her meaning, but exercises in the expression of a single fact in as many ways as possible have removed this tendency. Her eagerness to use any means of intercourse with others is marvellous. The caligraph typewriter was learned by her in less than a month. The telegraphic alphabet of dots and dashes is habitually used by her when at a distance from her teacher, the latter tapping on the floor with her foot. She was taught in a few moments a system by which any one may converse with her by means of a glove upon which the letters of the alphabet are written. Although she had no practice in this method of conversation she resumed it after a break of two years without the slightest hesitation. In this connexion it will be well to give a short account of her study of the French language. The idea was her own, and she willingly gave up part of her play-time for the purpose. Here we shall let her teacher speak for herself:—

"Our first lesson comprised some of the sentences oftenest used in every-day conversation. Each sentence, preceded by its English equivalent, was slowly spelled to Helen, who, after once repeating it with her fingers, was ready to learn another. Many short sentences thus became familiar to her within the hour.

"Her first perplexity was caused by the varying forms of the definite and indefinite articles; yet, when her questions regarding them had been answered, and she understood that memory must be the chief aid in the correct use of these words, she fitted them to the various nouns in her vocabulary, with an earnestness which was a certain prophecy of future accuracy; and in all her later work a mistake in their use was rarely made. Accuracy is indeed one of Helen's prominent characteristics. I noticed it especially in her writing. She liked to sit down with her Braille tablet and stiletto, and translate sentences from English into French. If she was at all doubtful of the spelling of any word, or the construction of any sentence, she indicated the doubt to me, by making with her fingers the letters of the word or sentence before she trusted them to the paper. She was much troubled by a mistake of any kind, and, if she discovered one, she was never willing to continue writing until it had been satisfactorily corrected. Idioms did not puzzle her. She seemed to apprehend intuitively that every language has its own peculiar modes of expression, and she also readily accepted the many different verb forms which the French lessons brought to her notice. It was seldom that she was confused, either in conversation or composition, by any verb structure which had been previously indicated in her French exercises.

"Helen soon advanced to a point where I was sure of her enjoyment of a simple French story. The first one which she read was *Un Enfant Perdu dans la Neige*, taken from Paul Bercy's little book, *Le Second Livre des Enfants*. I wrote the story in Braille; and Helen, being familiar with most of the words, translated it very rapidly. Soon afterwards she surprised me by telling it in French. . . . From this time stories were often selected . . . in response to her eager requests. . . . Frequently she correctly translated new words from their close association with some which were already well known. . . . She was quick to notice when there was a similarity between French words and the corresponding ones of our language. Certain French words were especially pleasing to her, . . . there were always some which she designated as *pretty words*."

She soon became "quite adroit in composing sentences within the compass of her vocabulary". The following letter was written in March, 1890, from an English dictation. It was translated by her with astonishing ease eight months later :—

"MELROSE, *le* 27 *Mars*, 1890.

"MA CHERE ELISE,—Dans quelques jours j'aurai une semaine de vacances. Il m'est tres difficile de rester enfermee dans une salle d'etude, quand toute est si belle dehors! A present le temps est magnifique. Deja les cerisiers sont en fleurs, et les collines sont d'un vert tendre et frais. On entend les oiseaux chanter parmi les arbres en fleurs ainsi que le bourdonnement des insectes et le murmure des ruisseaux; on sent la douce haleine du vent impregnee du parfum des premieres fleurs. Oh! que je serai heureuse quand je pourrai etre libre comme les oiseaux de l'air, et courir tout le jour dans les pres et les bois! Voulez-vous venir passer les vacances avec moi, chere Elise? Je suis sure qu' une semaine a la campagne vous ferait du bien. Ma mere vous envoie ses amities, et vous prie de venir.

"Ecrivez-moi quel jour et a quelle heure vous viendrez, et nous irons vous attendre a la gare. Je vous embrasse de tout mon cœur.

"Votre amie devouee, R. H. K."

"Helen has not yet been taught the use of French accents, and therefore they are omitted from the above letter. Her lessons with me preceded her first knowledge of the vowel elements gained from her work in articulation, and I did not attempt, at the beginning of her study of the French language, to introduce the accent marks, the meaning of which, at that time, would have been very obscure to her.

"Helen was much distressed by a failure to remember anything which she had ever known, and it was seldom that she suffered this pain. It became evident, during our second lesson, that she would not need reviews. The sentences of the first lesson comprised so many new words, that I thought it best to have them repeated before more were learned. When I asked questions to suggest the sentences of the previous lesson, Helen said, in an emphatic, surprised way: 'I know them! Please teach me something new!'"

It was in October, 1889, that she asked her teacher (Miss Marrett) to give her lessons in French.

"In about three months," says the Director of the Perkins Institution, "she was in possession not only of the keys to the treasure-house of her new venture, but of a great quantity of materials and of the art of handling them skilfully and of putting them to proper service in the construction of sentences. On the 18th of February, 1890, I received in Athens her first composition in French, which I am assured was written without any assistance on the part of her instructress, and which is copied here *verbatim et literatim* :—

"SOUTH BOSTON, MASS., *le* 1 *Fevrier*, 1890.

"BONJOUR, MON CHER AMI,—J'ai recu votre lettre charmante. Vous etes bon, et je vous aime beaucoup. Comment vous portez-vous? J'espere que vous vous portez mieux. Je parle Francais et Anglais à present. Les petites filles sont tresbonnes, et ma chere petite soeur est belle. Je me promene tous les jours pendant une heure. Aimiez-vous

l'etude lorsque vous etiez jeune? J'aime à lire. Ma mere a beaucoup de belles fleurs chez nous. J' aime mieux les roses et violettes. Ma mere m'a ecrit que les rosiers sont pleins de boutons. Les oiseaux chantent doucement comme dans le mois de Mai. Je ne peut pas parle Francaise ou l'ecrire avec beaucoup de facilite. Quelques enfants ont ete tres-malades avec le diphtheria au gorge. Lily Edson est mourut. Je suis tres-fachee de pauvre Lily. Ma mere, mon pere et ma jolie souer viendront a Boston le Juin next. Serez-vous heureux de les voir? Je serai bien aise d'aller avec vous a l'ecole de les petits enfants. Vous serez bien aise a savoir que je peux dire correctement tous les heure de le jour maintenant. J'espere que j'aurai une belle montre bientot. J'ai neuf ans, ma soeur n'a que trois ans et demi. Voulez-vous m'apporter des livres Francais de France? Je veux que j'etais a Athens avec vous pour jouir tous les belle choses. Ma chere institutrice a ete tres-malade, mais elle est beaucoup mieux maintenant. Je pense a vous toujours, et j'aime vous. J'aime m'amie, Mademoiselle Kehayia aussi. Il fait beau temp au jourd' hui, mais il fait bien froid. Voulez-vous aller a Paris avec moi quelquefois, je veux voir de belles choses. M'excuser les fautes, s'il vous plait.

"Pensez a moi et aimiez-moi toujours. Au revoir, mon cher ami. Ecris a moi bientot.

"De Helene A. Keller.

Space forbids any detailed description of her moral growth, for which we must refer the reader to the pages of the Report. It is enough to say that the same intelligent care that has been so successful in training her intellectual faculties has as wonderful a story to tell of her moral constitution. "She is a living negation of the doctrine of total depravity," says the Director, "and it is only too rare to meet with a soul as beautiful as that of the happy child to whose history this Report is devoted. I cannot refrain from one final quotation which will be found a striking illustration of the vividness and originality of her fancy :—

"A Dream.—Last night I dreamt that long, long ago, when the birds and flowers and trees were first made, the great God who had created all things sat upon a beautiful cloud which looked like silver, and seemed to float in the midst of the blue sky like a throne; and He looked down upon the earth—*the wonderful world He had made out of His own thought.* (Italics mine.) Oh, how beautiful the earth was! with her great mountains climbing upwards to the sky, and her valleys filled with sweet-smelling flowers and delicious fruit. The trees seemed alive with beautiful living things; the little birds' joyous songs made the air vibrate with music. I felt it in my dream. I knelt on the cool, green moss that crept down to the edge of the merry little brooks, and I touched the water as it rippled past me. The broad, deep lakes were as quiet as little sleeping babies, and I felt the ground tremble under my feet when the river went rushing past to join the stormy ocean. Then I went to the shore and put my bare feet in the water, and felt the waves beating against the shore continually; and God smiled, and the world was filled with light, and there was no evil, no wrong in all the world, only love and beauty and goodness. Just then I felt teacher kissing my lips, and I awoke."

W. J. Greenstreet.

PSYCHOLOGICAL NOMENCLATURE.

The following remarks are the outcome of a conversation held with Profs. Baldwin and Ladd at the Philadelphia meeting of the American Psychological Association. I do not think that any apology is needed for the initiation of a discussion of psychological nomenclature, though I am well aware that, for my own part, I can more easily point out difficulties than answer them.

Let me say at the outset that I presuppose (1) an autogeneous theory of Will, and (2) the recognition of the process of Fusion, as distinct from that of Association, of conscious content. The fundamental difference among psychologists as regards Volition should, it seems to me, condition a corresponding difference of terminology. Words which are common to the heterogenists with the autogenists—"impulse," "attention," and the like—will always be terribly equivocal. But as neither party is likely to give up the use of them, one can only suggest a distinction and definition of the ground-processes of mind, which shall be the most careful possible; this portion of the nomenclature of a psychological system thus furnishing the key to the significance of the further terms employed. As regards Fusion and Association, I would roughly distinguish them as follows: in the Fusion, the factors recede before the total impression; in the Association, the factors are (at least) as clearly recognisable as they were or would be separately.

In the developed human consciousness—our only starting-point—we seem to find the interplay of three processes. These processes have been named Sensation, Feeling, Conation. It is to be noticed (1) that all three terms are verbal nouns; (2) that each has an adjective—sensational, affective, conative; (3) that each has a verb—sense, feel, conate. "Conate," it is true, does not appear to occur in the dictionaries, but it is an obvious form. More serious is the objection that may be taken to the adjective "affective". In face of it, two alternatives seem possible. Either one may use "feeling" itself as an attribute, and speak, *e.g.*, of the "feeling element" in a complex process, of the "feeling aspect" of the pains of touch, and so on: though the active connotation of the word is against this. Or one may take the series—affection, affective, be affected. Then the child would *sense* the red of its ball, *be* pleasurably *affected*, and *conate* an action of seizure. The passive form would often lead to clumsiness of phrasing; would it lead to psychological error? Only a consensus of opinion can decide which of the three possibilities is the least objectionable.

But when our choice is made, the real difficulty begins. Suppose that we have chosen "sensation," "affection," "conation". These processes are the ultimates of scientific analysis, not separate existences. No one of them occurs of itself, in isolation. We experience only fusions of all three—fusions in which now sensation, now affection, now conation predominates, but in which each is represented to some extent. In ordinary parlance, as in psychology, we name these after the prevalent ground-process. But we must recognise the liability to confusion which such usage involves. Take Prof. Sully's definitions as one instance out of many. "Sensation" is the "simple psychical phenomenon resulting from the stimulation of the peripheral extremity of an afferent nerve when this is propagated to the brain". Affective elements, *i.e.*, "simple modes of agreeable and disagreeable feeling, like . . . sensations, . . . are given as the immediate psychical concomitants of nervous stimulation". The two things are, by analysis, different. Yet the writer speaks of the "affective element in sensation," thereby returning to the very

same popular usage which he deprecates.[1] Dr. Lehmann, to take another example, has realised this difficulty, as regards the term *Gefuehl*. The *Gefuehl* is at once the affective element in a (characteristically) sensational-affective fusion, and this concretely experienced fusion itself, if the affective element predominate in it. He decides to call the concrete "state of mind" *Gefuehl*, discriminating between its intellectual and emotional elements.[2]

We might, perhaps, employ "perception" (perceive, perceptional) to designate the fusion in which sensation prevails. The fusion in which affection predominates would be a Feeling. Here arises the difficulty of the adjective again! I would incline (in spite of the objection above mentioned) to parallel the phrase "perceptional content" by "feeling content"; or (perhaps) by "felt content". The term "pathic" has the disadvantage that it breaks the symmetry of the series. The fusion in which conation is the chief factor is the Impulse. We have the adjective "impulsive," and the verb "be impelled". No doubt, the passive form, here again, is a relic of previous psychological systems; this must be borne in mind, and the phrase used with caution. It is, however, just as well that we possess it.

So far, then, we have:—

(1) The conscious ultimates:

sensation	affection	conation
(sensational	affective	conative
sense	be affected	conate);

(2) The concrete mental processes:

perception	feeling	impulse
(perceptive	feeling	impulsive
perceptional	pathic	
perceive	feel	be impelled).

The English terminology, after all, is fuller than the German. We find current, in the latter language: *Empfindung*, *Ton* and *Wille*; *Wahrnehmung*, *Gefuehl* and *Trieb*. I do not think that much exception can be taken to the use of *Wahrnehmung*. The employment of *Wille* is objectionable; the word is wanted elsewhere. But what other is there? We cannot render Affection by *Affect*; the latter has a definite meaning, as equivalent to emotion. *Ton* is awkward, and its theoretical implications are in any case disturbing. Perhaps *Affection* might be introduced. That would give us:—

(1) Sensation, *Empfindung*; Affection, *Affection*; Conation, *Wille*; Sense, *empfinden*; be affected, *afficirt werden*; conate, *wollen*.

And in the other series:

(2) Perception, *Wahrnehmung*; Feeling, *Gefuehl*; Impulse, *Trieb*; Perceive, *wahrnehmen*; feel, *fuehlen*; be impelled, *getrieben werden*.

Two objections may be raised at this point. It may be said that these tables are too schematic. I do not, of course, want to cut Psychology to fit a terminology; and if it be the general opinion that the science is not yet ripe for exact definitions, I shall be content to wait. But though premature rigidity is bad, the present fluidity seems worse. Secondly, it may be argued that the separation of elements from concrete processes

[1] *The Human Mind*, i. 81, 133, 82.

[2] *Die Hauptgesetze des menschlichen Gefühlslebens*, 55, 56.

involves a waste of good terms. But this separation is of very great educational importance; students tend constantly to confuse the two things. And if we go on working at Psychology synthetically—a course which, *pace* Prof. James, seems just now the most promising—it becomes a matter of necessity.

One further point. In the fusions of which we have spoken a single element has predominated. There is no reason, *a priori*, why two elements should not find equal representation, or approximately equal representation, in the same fusion, unless, indeed, the "unity of consciousness" were appealed to. Facts must decide. We do not find, as a matter of fact, a namable concrete process of the kind under consideration in which sensation and affection are equally strong. On the other hand, we do find such a process in the cases where Conation is one of the prevailing elements. Attention is nothing else than a fusion of the ultimates, in which Sensation and Conation together are in the ascendant in consciousness.[1] This is indicated, indeed, by the common phrase "sensory attention".

We have then:—

(1) No namable fusion showing a joint predominance of Sensation and Feeling.

(2) "Sensory" attention (*Aufmerksamkeit*); a fusion showing a joint predominance of Sensation and Conation.

(3) Perhaps an "affective" attention—a fusion showing a joint predominance of Affection and Conation.[2] It is a common experience that attending to a pain "makes it worse"; but it appears to be impossible to attend to Affection as we do to Sensation.

It might be urged that there is a continuous progress from Perception to Feeling through a series of more and more "toned" Sensations; and that, therefore, theoretically at least, there must be a point at which the sensational and affective elements are in equilibrium. I cannot recall any experience of this character definite enough to deserve a special name. And there is no psychological term extant to express such an experience.

The three great psychological chapters can very well retain their traditional headings: Intellect, Feeling, Will (*Vorstellung, Gefuehl, Wille*). Of the more complex mental processes I will not say much in this paper. Perception-complexes seem best designated as Ideas (*Vorstellungen*).[3]

[1] Expectation and Retrospection are fusions of the same kind as is attention, but of a more complicated order. The content in Expectation is an apperceptive ideational (representative) combination, with which is fused an attentional amount of conation. The content in Retrospection is an associative ideational (representative) combination, with which is fused so much conation. Their is thus a twofold activity of apperception in the former process; this activity, however, being single at any given moment.

[2] "The *emotion* is ultimately a sensational affective fusion. Perhaps the meaning of the term could be extended to cover more simple states than those usually denoted by it."

[3] Where the idea is presentative, a verb is supplied in general by the dominant perception: only a word for "I perceive by touch" is wanting (could one say: "I tact"?). Whether it is presentative or representative, the forms "ideate," "ideational" can be employed.

These, like sensations and perceptions on the one hand, and like affection and feeling on the other, may be presentative or representative: these terms are convenient, and more or less stereotyped in meaning. It is to be noticed that, while perceptions and ideas are almost infinitely various, the qualities of affection and conation remain the same throughout the whole course of mental development. Affection is only and always pleasant or unpleasant; conation has but one quality—apperception, if we care to call it so. The affective side of an idea, therefore—its affective value, over and above the affective values of the perceptions which compose it—is due to what we can only term, for distinction's sake, an affection of a higher order. The idea is pleasant or unpleasant by virtue of an affective quality which is identical with the affective quality of the perception. The like holds of complex processes involving Will. The quality of the element dominant in the impulse and in the voluntary action is one and the same. There are no qualitative differentiation and elaboration of felt and of impulsive content, as there are of perceptive. Hence the difficulty of giving certain conscious processes a specific name.[1]

In conclusion, I will attempt to analyse into their constituents[2] one or two of the more compound processes, which were discussed in the conversation alluded to. (1) *Desire.*—The conscious content, corresponding to the desire of an object, would be a fusion of (*a*) the idea of the object, presentative or representative, *i.e.*, practically, a complex of sensations: (*b*) affection, presentative and representative, or representative only; the latter being the representation of the pleasure attaching to the attained object: (*c*) so much of conation as is implied in attention. Dominant in the whole fusion is the affective element. (2) *Voluntary Action.*—The content, whose expression is a voluntary action, would consist of (*a*) representative ideas, ideas of the action itself: (*b*) representative affection; the representation of the pleasure attaching to the completed action: (*c*) conation to the extent found in impulse. Dominant in the fusion is the conative element. (3) *Deliberation.*—Here are present in consciousness (*a*) an alternation of representative ideas: (*b*) a similar alternation of represented affection: (*c*) an attentional amount of conation. The fusion is of the same nature as is attention itself; Will is balanced by Feeling or Intellect. Just as attention may pass over into impulse, so may deliberation pass over into the voluntary action, as analysed above.

I do not claim, in these remarks, to have offered anything new or original: it was rather my hope that they might call forth other expressions of opinion on the subject of terminology.[3]

E. B. Titchener.

[1] *Cf.* Wundt, in *Phil. Stud.*, 391 ff.

[2] Of course, only schematically.

[3] For this reason I have thought it better not to weight the essay with references. Nor have I sought to define, except by implication, the three terms 'sensation,' 'affection,' 'conation'.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—IDEALISM AND EPISTEMOLOGY.

By Professor Jones.

It can scarcely be maintained that the prevailing characteristic of recent English speculation is its "Cheap and Easy Monism". The 'Hegelians' and 'Neo-Hegelians' who are always referred to as deepest in this error (though they are not identified by their critics) are less in evidence than the Lotzians and Neo-Lotzians. And these latter are anything rather than Monists. Monism, if we may judge by them, is giving way to more or less thinly disguised Dualisms, or even Pluralisms; and philosophy is putting on motley. The tendency of 'the young bloods,' if I may quote the phrase of a young philosopher, is critical rather than constructive. They evolve no systems. They suggest that system-making is not consistent with sobriety of thought, and they confine themselves to analysis, the exposition of difficulties and polemic. They will admit, I do not doubt, that "the desire to comprehend the Universe as a revelation of a single principle is the genuine impulse of philosophy". But, so far as I can see, they do not give way to any such impulse. The speculative duty of the day seems to them to be that of dividing Philosophy into special departments. Besides Psychology, which is manifestly a special science, there are other disciplines different from each other but falling within Philosophy. Before we can attempt to construct a Metaphysic there are

"manifestly preliminary" problems to be solved. We must *first* have Psychology to deal with the inside of the individual's consciousness; then Epistemology to deal with the relation of the inside and the outside; then Ontology to deal with the nature of what is both inside and outside; and, I presume, Logic to deal with the processes of that 'hypothetical' existence, 'thought in general'. There may, indeed, be some way of bringing these departments of philosophy together, either under one of their own number, or under some fifth. But, as yet, that way has not been revealed to us. For the time being it has seemed sufficient to the new school of critics to expose the difficulties and errors which have sprung from the confusion of the categories and problems of these different and distinct disciplines by the 'Hegelians' and 'Neo-Hegelians'.

Now this critical endeavour is capable of being very useful labour, although a mere *distinguo* solves no problem. And the most faithful adherent of Idealism may well admit that no philosophic system stands in greater need of articulation. He would also fain believe that no system would gain so much by that process. A fresh application of its main principles to new data would not only enrich and substantiate but also modify them, and lead the way to a more complete and true view of the world. But criticism, if it is to claim the attention of philosophers, must itself be philosophical, that is, it must itself derive its impulse and guidance from some intelligible single principle. The difficulties urged against a philosophy should have some higher source than the commonplace empiricism of ordinary consciousness. The duty to criticise must be based on a right to criticise, and that right can only be derived from some consecutive and ultimately constructive theory of existence. I do not wish to imply that ordinary experience and the ruling convictions of unsophisticated mankind have no claim upon the philosopher's adherence; nor even to deny that philosophy may find its whole task in the systematic reconstruction of ordinary experience But it is one thing to pay regard to the facts of such experience, and quite another thing to regard its own theories of these facts as the touchstone of philosophic truth. Philosophy is bracing itself to its most difficult and most productive task in attempting the former; it is denying its own right to exist in adopting the latter. Why should it toil if there lies ready to hand the cheapest and easiest of all methods, namely, that of simply accepting and re-wording the unconscious theories of traditional opinion?

Now, so long as the critics of Idealism produce no evidence that their criticism is itself construction disguised, they are liable to the charge of this lower appeal to 'common-sense'. Their recoil against Monism may seem to be a recoil against philosophical method; and, in the words of a recent writer, "their sympathy with the German reaction" may appear merely to "restore the rule of traditions which we are just beginning to lay aside". No doubt they cut themselves free from such uncritical traditions by claiming to rest their polemic on the basis of the Idealism which they examine. They profess an Ontology that is all-comprehensive. They will even admit, *at times*, as Lotze does, that the Supreme Subject, which used to be called the Absolute, is "the only reality". But their Ontology is, so far, a name and nothing more; and their supreme "Subject" is only an Honorary President who hypothetically acquiesces in the activities of his subordinate 'manifestations'. In virtue of that office the Subject holds things together somehow or other, and even unites thought and being. Professor Seth assures us that "the chasm" (*i.e.*, between thought and reality) "is not an absolute one, otherwise knowledge would be for ever impossible". And, in my opinion, this is self-evident. But in the previous sentence he tells us that "Ontologically, or as a matter of existence, they remain distinct—the one here and the other there—and nothing avails to bridge the chasm". And these two consecutive sentences, if we are not to forget one in reading the other, leave the relation between knowledge and reality in a very obscure state. The relation exists, but it is not ontological. Knowledge, we are told, is entirely within the subjective consciousness, while reality is not within it; and yet the former is connected with the latter, though it is not connected really but ideally,—or, shall we say, *un*really? I think it fair to urge that the unity of knowledge and reality, which prevents "the chasm which nothing can avail to bridge from being 'absolute,'" needs further explanation. But no explanation is given. Attention is concentrated on the opposing terms. We are presented with a series of exclusive alternatives. Feeling is set over against knowledge, simple apprehension against reasoning, the 'given' against our thought, perception against conception, particulars against the universal, the subjective against the 'trans-subjective,' the ego against its experience, consciousness against its phenomena. Idealism, which has sought to bring these differences together as manifestations of a single principle, is regarded as having merely obscured their distinctions. Its obedience to the 'genuine impulse'

of philosophy seems to its critics to have issued only in a theory of the 'altogetherness of everything'. Now, I willingly admit that to obliterate differences is not to explain them. But to insist on differences to the exclusion of their unity is equally futile. And it is obvious that no criticism of idealism can be effective or just if it does not seize upon its 'single principle,' its colligating hypothesis, and show either that that principle is altogether untrue, or that its application to particulars is inadequate. But the critics attempt neither of these tasks. The idealistic Ontology which they profess is quite otiose. They dwell on the various aspects of the opposition of knowledge and reality as if, after the manner of the sceptics, they would fain make it absolute. They save themselves from the sceptical position by occasional hints at a 'faith' which is to do service when reason fails, or at a feeling which is to give evidence of matters of which we cannot be conscious. And in all these respects they seem to me to occupy the attitude of ordinary consciousness, except that critically they are better equipped. In other words, they are more fully conscious of the different aspects of experience which philosophy has to reconcile, if it has any task or function at all, but they make no attempt to effect that reconciliation; they put forward the problem of philosophy in the place of its solution; they criticise Idealism from a dualistic point of view.

It is in this dualistic spirit that they explain Kant, under whose broad ægis every writer on modern philosophy seeks refuge. For they certainly have gone 'back to Kant,' and, I believe, much further, even to Dr. Thomas Reid. They are proceeding to give us 'the authentic Kantian philosophy'; for who cannot find his own creed in Kant? And that 'authentic' or expurgated Kantian philosophy is, as they believe, a philosophy from which the 'many idealisms' could not have sprung except by the confusion of obviously different things, namely, knowledge and things known. Kant, it seems, held that knowledge was all inside, that all our perceptions are subjective phenomena and nothing more; and in this respect occupied 'practically the same ground as Berkeley'. He differed from Berkeley mainly in that he did more justice to the *a priori* elements in our purely subjective perceptions, and held consistently to things-in-themselves. This means, if I rightly understand, that Kant opposed ideas and things after the manner of Locke.

The hints given to us of the positive theory which lies behind this criticism of Idealism and this reconstruction of Kant point to the same dualism. That theory is to be a com-

bination of Epistemological Realism with Ontological Idealism. It shall show (1) that knowledge is not the reality known; (2) that knowledge is nevertheless *of* reality; (3) that the universe is "essentially related to intelligence" and not "a brute fact existing outside the divine life and its intelligent ends". I am not aware that any idealist would be prepared to dispute any one of these conclusions. No 'Hegelian,' 'Neo-Hegelian,' or 'Neo-Kantian' would hold that his ideas are the things which they represent. No one, except an absolute Sceptic, would deny that knowledge is '*of*' reality, though every philosopher would like to explain that '*of*'. And we are now, thanks mainly to Kant, all convinced that reality is "essentially related to intelligence"; though some of us would like to understand that intelligence and that reality in such a way as to make their relation intelligible. If it is sufficient to occupy these positions one after the other, or combine them externally into an Epistemologico-realistico-ontologico Idealism, then we may all assume, equally with our critics, that proud title.

But philosophy can not be satisfied with 'the cheap and easy method' of solving difficulties by a *distinguo*. It seeks a principle of unity *in* the differences; and that principle is scarcely brought to the surface by a theory which combines the dogmatism of Reid with the ontology of Hegel; for this seems to be the plain English of Epistemologico-realistico-ontologico Idealism. Dualism, which is philosophic failure, is too thinly disguised by this mixture of such heterogeneous elements as the absolute philosophy and unsophisticated popular opinion. And those who advance it, if they are not, as Mr. Bosanquet says, "fatally deficient in philosophic thoroughness," will be obliged to abandon either the one or the other of these elements. Nor is it difficult to see which element they will have to abandon. They are really objecting to the theory of Hegel from the point of view of Reid. Their Hegelian or idealistic Ontology is, as yet, not operative. Their active convictions are that man's knowledge is not the objects which it represents and that Hegelians say that it is; that books on philosophy, even if that philosophy be absolute, are not the Universe, and that Hegelians say that they are. The fundamental vice of the 'Hegelians' and 'Neo-Hegelians' is confusion. They have confused many things. They have mistaken a theory of knowledge for a theory of being, the facts of their own consciousness for the real things which they represent; they have identified their own ego with a logical category, and themselves with God. The claim of the critics to a hearing

rests on their efforts to disentangle these confusions and set the elements apart. But before attempting their tasks the critics may justly be required (1) to be quite sure that Idealists have confused these elements; (2) to bear in mind that the real task of philosophy begins only with the attempt to bring these elements together again as manifestations of a 'single principle'.

Now, I would be loath to assert that Idealists have at no time given colour to the charge that they have confused the distinction between knowledge and reality in one or other of its various aspects. But I would maintain, at the same time, that the Idealists have not identified their own ideas of things with the things which the ideas mean, or regarded the books of Hegel as the Universe. And I shall try to prove that to insist as *against* Idealism that knowledge is not that which is known springs from a fundamental misapprehension of the idealistic point of view.

I regard Idealism—to put the matter as plainly as I can—as a theory which represents the Universe as a thinking activity, an activity which reaches its highest form in this world in man. The critics accuse Idealists of saying that the Universe consists of *ideas* or thoughts, hanging together in a kind of system. Such a 'world of ideas' they, quite naturally, find to be very unreal, lacking all stability and substantiality—a mere cloudland. It is, they hold, only a subjective world, inside the 'consciousness' of individuals; and they would, therefore, attach it at both ends to realities—at one end, to individual thinkers who produce thoughts, and, at the other end, to 'trans-subjective' facts which the thoughts represent. They thus get three sciences, or three departments of philosophy, namely, Epistemology to deal with our thoughts 'of' reality, Psychology to deal with the thinkers, and Ontology to deal with the nature of things, including thinkers. In consistency with this view they accuse Hegel and his followers of 'swamping Epistemology in Metaphysics,' as well as of the opposite error of swamping Metaphysics in Logic. This means, I presume, that Hegelians succeed in both making the world of realities swallow the world of ideas, and the world of ideas swallow the world of realities—like the conjurer's two snakes, each of which disappeared inside the other. Or, to speak without the violent metaphors of 'swamping' and 'swallowing,' the opposition of thoughts and things has been obliterated by the Hegelians, old and new; and their critics are bent on holding the opposites apart, and on giving a theory of each of them and a theory of their relation. This, I believe, is the precise

point on which most of the critics of Idealism base their attack ; and on this rests their own constructive endeavour. In other words, they contend for the need and possibility of a science of the relation between ideas, 'the subjective states, which are plainly our data,' and 'trans-subjective realities,' or the things meant by these ideas.

Now any theory of the relation of these opposed terms implies that both of them exist. The critics thus rest their case on the existence of a world of ideas (or of as many worlds of ideas as there are individual thinkers), and on its difference from and relation to a single world of real objects. The Epistemology which is to clear the way for Metaphysics is to give a systematic account of the relation of these inner and outer worlds ; and the fundamental error of Hegelianism is that it has rushed straight on Metaphysics, without distinguishing the sphere of thoughts from the sphere of things, the categories of Epistemology from those of Metaphysics.

But 'Hegelians' are, in my opinion, exposed to a still more fundamental charge. They not only have no Epistemology, but they deny that such a science is possible. They do not recognise the existence of a sphere of ideas requiring to be related to a sphere of thoughts. And it is evident that before a science of the relation of two worlds, one subjective and the other objective, can be justly demanded from them, they must be convinced that both of these worlds exist. Idealism, as I should like to call the theory of Hegel and his followers, leaves room for Psychology, as it does for Botany or Physics or any other special science that deals, under its own appropriate hypothesis, with definite facts or special elements of the real world of objects. But its own proper task is throughout metaphysical ; it is to investigate the nature of a single real principle and to trace its activity both in outer facts and in thinking individuals. Of a 'world of ideas'—whether in individual thinkers, or hanging in mid-air, so to speak, between individual thinkers and the things they think about—it is obstinately ignorant. And, consequently, they do not oppose the world of ideas 'with its imperturbable repose and clearness,' as Lotze says, to the world of things with its innumerable activities. The opposition is to them meaningless. They cannot confuse therefore its terms, nor feel the need of an Epistemology to expound their relation.

The first task of the critics of Idealism is, therefore, to prove that a 'world of ideas' exists, either in thinkers or between them and the world they know. But of this I have seen no proof; and I think that no proof is possible. So far as

my experience goes—and these critics of Idealism lay great store on the experience of any individual—ideas form no world, but each of them exists as long as it is being produced, and no longer. They are evanescent products of an intelligent activity which vanish when the process that brings them forth stops. It is not Idealism but Associationism that regards ideas as capable of hanging on to one another like a swarm of bees, or of arranging themselves in a system 'imperturbable in its repose'. And it is not Idealism but Associationism that can demand and seek to establish a science to relate these subjective systems of ideas to the outer world. One might expect that Mr. Bradley's criticism of this view had given it its final quietus, but a little experience of philosophers should cure the youthful error of being sanguine. May I repeat, then, that ideas seem to me to occur in sequence; that they follow one another, so far as they are distinct presentations, in a serial order; that not one of them persists in existence; that having once perished it is never revived; and that, for each and all of these reasons, a world of ideas 'imperturbable in its repose' is impossible?

This is a very simple matter, it seems to me, but the consequences of ignoring it are so numerous and important that I am tempted to dwell a little upon it. These consequences may be more fully realised if we consider a possible and even probable objection to our view. We speak of an inheritance of knowledge capable of being hoarded by one generation and handed down to its successors. And surely, it may be urged, there are systems of knowledge, symbolised in books and otherwise, which have a universal meaning and a permanent value for mankind. Such bodies of knowledge are to be confounded neither with the fleeting psychical presentations in the minds of their authors, nor with the realities which they represent. The ideas of Plato and Newton, in the sense of their psychological presentations, perished as they arose, one after the other. They were never in the minds of their authors, all at once. They are now all perished with their authors. Nevertheless, it seems little less than wilful perversity to deny that these men left behind them in their works systems of knowledge,—what are not inappropriately called 'worlds of ideas' as an inheritance for all thinkers. Is it not undeniable that of certain parts of the earth we obtain information only from books of Geography; that there are ideas in those books for all who can understand them; and that these ideas are neither the psychological presentations in the minds of the writers of those books nor

the actual parts of the earth? Ideas, then, it may be urged, perish as psychical events, but as having meaning they are capable of being permanent and of forming systems.

This distinction is also applicable to the ideas of an individual. We speak of the growth of a man's knowledge, a growth which implies both the accumulation and systematisation of his ideas. And, apparently, we can be as sure that this growth takes place as we can of any other fact of experience. Such knowledge can not be identified with the evanescent psychical events in his consciousness; for these latter are serial and fleeting, and can, therefore, be neither accumulated nor systematised. To confuse this distinction is to confuse an idea as a psychological datum, which is as subjective, incommunicable and transient as the pain of toothache is, with an idea as having objective, and therefore universal and permanent meaning.

Now, it may be urged, while it is evident that Epistemology as a science of subjective phenomena is impossible, Epistemology as a science which explains the objective reference or universal meaning of these ideas may be both possible and necessary. But it is in the latter sense *only* that the critics of Idealism regard Epistemology. Ideas as subjective phenomena are, in their view, to be dealt with by Psychology. They belong exclusively to the private history of the individual. But ideas as having objective reference, a meaning for all minds capable of apprehending them, form the subject-matter of Epistemology. The spheres of these sciences are quite distinct from each other and from that of Ontology. The scientific law, *e.g.*, that the attraction of bodies for one another varies inversely with the square of their distances, is as distinct from the psychological occurrence in the consciousness of its dead discoverer as it is from the actual attraction itself. And, in so far as this law is part of a connected whole of meaning which we call the Copernican System of Astronomy, the term 'world of knowledge' sufficiently describes an actual fact. In that case Epistemology has a distinct field of inquiry, and the 'Hegelians' and 'Neo-Hegelians' cannot, without detriment to clear thinking, 'swamp it' in Metaphysics.

Our Epistemological critics would, no doubt, put their objection more forcibly. I have done what I could, and I now proceed to examine it.

The distinction between ideas as mere occurrences in consciousness and ideas as having objective reference seems to me quite valid. Mr. Bradley has succeeded in putting this matter beyond reasonable dispute. The question that

remains is, does this distinction justify the view that there exists, besides subjects and objects, a world of knowledge awaiting explanation at the hands of a science which is neither Psychology nor Metaphysics, but is, apparently, subsequent to the former, and certainly preliminary to the latter? Does there exist such a third sphere, or does it not rather consist of hypostasised abstractions? There are evidently thinkers and objects thought about; are there other 'existential realities'—to use a phrase of our critics?

I do not think that there are. Ideas are not 'existential realities' in any sense, whether as psychological phenomena or as having objective reference. They are not divisible into two parts, one of which perishes, while the other has permanent existence. The objective reference is an essential characteristic of *every* idea as a phenomenon of consciousness and inseparable from it. The fact that we can and should distinguish these two *aspects* of ideas does not justify us in separating them, in making one fleeting and subjective and the other permanent and objective. Nor can we make ideas the subject of different sciences, except by a process of abstraction that becomes vicious if taken as ultimate. Prof. Seth tells us that "the psychologist deals with psychical events merely as such". "It is only for the psychologist that mental states are interesting on their own account, as subjective realities or facts. To every one else they are interesting only for what they *mean*, for the knowledge they give us of a world beyond themselves." . . . "We treat them consistently as significant, as ideas of something, as representative or symbolic of a world of facts. Now it is from this latter point of view that epistemology considers ideas." (*The Philosophical Review*, vol. i. pp. 131, 132.) But it seems to me that psychology cannot deal with ideas 'merely as psychical events'. Apart from their objective reference, which Prof. Seth hands over to Epistemology, the psychologist could not recognise them as ideas. If he could, every idea would be the same as every other; perceptions, imaginations, memories, concepts, reasonings, as mere psychical events would be indistinguishable. In omitting the objective reference the psychologist would be endeavouring to deal with form without content, and the whole task of his science would be to mark the time of psychical occurrences, none of them having any character. His Epistemology would "swamp" his Psychology. But, again, such an Epistemologist as Prof. Seth describes would be equally helpless. For it is evident that he could find no ideas having objective reference except those which are also phenomena

of the individual consciousness. Or does Prof. Seth know of a world of thoughts without a thinker? If not, then his Epistemologist must take account of the fact that the ideas whose reference he would expound are psychical phenomena and nothing more; though, if they are ideas, they are psychical phenomena which have and must have objective meaning. In this respect Psychology would justly 'swamp' his Epistemology.

What, then, is to be said of such systems of thought as the ideal theory of Plato, or the astronomical theory of Copernicus or Newton? Simply, I would answer, that as *knowledge* or *ideas* they are psychical experiences of individuals, fleeting and subjective; and as having permanent meaning for mankind they are not ideas nor knowledge, but objective facts consisting of symbols, and capable of being interpreted into knowledge, or ideas, by the activity of individual minds. In this last respect they fall entirely into the world of external objects, and they are permanent objects of knowledge for exactly the same reasons as works of art, or plants and planets, are permanent objects of knowledge. They are related to intelligence and await its interpretation in precisely the same way. They are natural objects in the outer world, presented to intelligence in the same way as all other objects which have meaning. They occupy no sphere by themselves. They do not constitute a 'world of ideas' from which we must in some inexplicable way escape in order to find realities corresponding to them. They do not, therefore, await interpretation at the hands of a special discipline called Epistemology, but are objective facts whose ultimate nature is to be explained by Ontology. In themselves they are not knowledge. When intelligence interprets them, not before and not after, they may in a sense be called systems of ideas. But so may plants and stars.

Of course these systems of knowledge as outwardly symbolised, which is the *only* way in which they can be regarded as 'existential realities,' form a special class of outer objects. In their case some form of matter—whether it be ink and paper as in books, or stones as in sculpture or architecture, or sounds and movements as in human speech—becomes informed with meaning which is foreign and accidental to it. The objective fact in these cases is a sign or symbol, that is, something whose essence is its meaning and whose *special* material form is more or less extraneous and contingent. But I do not think that this distinction is relevant here. Language, whether written or spoken, is not an outward fact of the same kind as the natural events

whose meaning it is used to convey. Still it *is* an outward fact, and it is ultimately to be explained in the same way as other outward facts. And it is only as outward objects, capable of being interpreted, that systems of knowledge have any permanence and can be inherited from one generation by another. By the help of language, a system of objective signs, we inherit them from our predecessors just as we inherit their works of art, public buildings, canals, and coal mines. What is handed down from age to age and accumulated is not knowledge but the *means* of knowledge; not ideas but objects which have meaning. That meaning must be elicited anew by every generation for itself. It is only when so elicited that there is knowledge, as we have consciousness of beauty when we appreciate a work of art, or a scientific law when we understand a physical fact or event.

It is equally manifest that there is no accumulation of knowledge in the individual. There are no ideas except those which occur serially. Each of these ideas is a transient psychical phenomenon which has more or less significance, according as it is a more or less complex unity of multiple elements. Being transient, ideas cannot be accumulated. All the objections urged by Mr. Bradley against the Associationists are valid against all ideas alike, whether particular (were their particular ideas) or universal. They perish with the process of knowing, and they can never be called into existence again. Of course that process may be repeated. The individual may go through similar intellectual activities over and over again with like results; but neither the activities nor their results are identically the same. They have no permanence. The permanent identity is on the one side the thinking subject, and on the other the objects thought of. The subject grows, but not his knowledge as such. Every intellectual act modifies *him*. Every process is organised into him in the form of developed faculty. But the thoughts themselves pass away, as other good or bad actions do. They are accumulated only in the same sense as a learner of the piano accumulates technical skill. Each thought vanishes like each movement of the fingers on the keys; but no thought vanishes before the result of the activity from which it sprung has been organised into the agent by the development of his powers. In a word, there exists no world of ideas any more than there exists a world of actions.

All this seems to me so plain and elementary that I press it at such length with some sense of shame. But, on the other hand, the metaphorical use of such phrases as 'world

of knowledge' exercises such a tyrannical power in philosophy that very important results would follow the clear consciousness that they are metaphors—that the 'world of ideas,' whether regarded as in 'imperturbable repose' with Lotze, or as 'wandering adjectives' with Mr. Bradley, is a more or less solidly hypostasised abstraction, and nothing more. If this phantom world were swept off the boards altogether we should no longer need Epistemology in the sense of a theory of the nature and validity of the objective reference of ideas. It would then be clearly seen that what remains to be explained is the activity of knowing, the intellectual processes performed by individuals in virtue of an ontological relation between them and objects in the outer world. The task of philosophy would be to investigate the nature of this ontological relation, or of the "single principle" which makes possible the intelligent processes in individuals. Logic would no longer seem to be an analysis of the relations of ideas to one another, but an exposition of intellectual processes. It would not be a theory of abstract conceptions, but an ontological inquiry, just as the physical sciences are. And if it should turn out in the last resource that every process is best explicable as a process of thinking, then Logic would itself be Ontology, or Metaphysics, as Hegel conceived it.

For this is what Hegel meant. To him the Universe was not a system of thoughts, but a thinking reality manifesting itself most fully in man. He has been regarded as setting in motion an 'unearthly ballet of bloodless categories,' and then to have confounded these categories, these thought-determinations, these abstract ideas, with realities. He is accused of inventing a logical chain of mere thoughts, analogous to 'Plato's system of general notions or ideas,' and then to have endowed these thoughts with a dynamic power. He is thus guilty as Plato was of a 'crude mythology,' of substantiating mere ghosts, of taking a *mauvais pas* from the world of mere thoughts to a world of real things. "The distinctive feature of the Platonic theory of Ideas," we are told by Professor Seth, reading Plato backwards, "in which it is a type of a whole family of systems, Hegel's among the rest, I take to be its endeavour to construct existence or life out of pure form or abstract thought. Plato's whole account of sensible things is to name the general idea of which they are particular examples; Hegel's whole account of Nature is that it is a reflexion or realisation of the abstract categories of Logic." As against this view Professor Seth insists that knowledge is not reality, that the notion of Being is not existence, that the form or self-consciousness is neither man

nor God, but an abstract thought. "Hegel," he says, "has taken the notion or conception of self-consciousness, and he conceives the whole process of existence as the evolution and ultimately the full realisation of this notion. But it is evident," he adds, "that if we start thus with an abstract conception our results will remain abstract throughout." *Most* evident, I quite agree. To evolve things out of ideas is a manifestly hopeless endeavour. Out of thoughts can come nothing but thoughts. This matter is so evident as not to need discussion, or proof, or iteration. If Hegel and his followers, old and new, have attempted this task they are convicted, in my opinion, of manifest absurdity. *Ex nihilo nihil fit.* From a world of ideas which has no existence, which is a mere manifestation of a subjective process of intelligence, nothing can be deduced. Abstractions cannot yield even abstractions.

The truth of the matter is, however, that the critics of Idealism have been reading into that system their own views. They believe in this world of ideas; they desire a science of it; they wish to relate it to a world of realities. For them the categories are general ideas connecting other ideas, universal thoughts like beams supporting an edifice of thoughts. For Hegelians and Neo-Hegelians there are no general ideas which do not perish in the making. There are no categories in this sense, no thoughts which bind other thoughts to one another. There is no world of knowledge in the heavens above, or on the earth beneath, or in the water under the earth. Their universe is mind, not thoughts. Their categories are laws of the operations of intelligence, not connecting ideas. Their problem is to understand reality, to discover the nature of the fundamental principle of which all existences are revelations, not to constitute a theory of a world of abstract notions. That fundamental reality they pronounce to be the universal intelligence, whose operation they would fain detect in all things. They are as frank in their ontological intentions, as little troubled with Epistemology and the sphere of ideas, as if they were Materialists. The laws of thought are not for them the laws of *thoughts*, but the law of things. They do not wish to know the nature of knowledge, except in the sense of the process of knowing. Their attitude towards thought is that of science towards natural processes. Their explanation of thinking is as ontological as the physicist's explanation of gravitation. If their explanation is more full and true it is to that degree more intimately related to reality. If, as they hold, all reality is ultimately explicable as Spirit,

or Intelligence, their Ontology *must* be a Logic, and the laws of things *must* be laws of thinking. And this is just what Hegel tried to prove in his Logic, in which he advances from being to thought. I am not concerned at present in defending this interpretation of the universe as a thinking activity. It may be quite as absurd to regard physical energy as intelligent action, as it is to regard the intelligent activity of man as the operation of mere physical force. To say, for instance, that gravitation is implicit, or obscure thinking, may be to speak nonsense, as it probably is for the Materialist to say that conscious action is nothing but the intricate movement of physical particles. It may be impossible either to level up or to level down, to regard Matter as Spirit or Spirit as Matter. In any case there is no doubt, in my opinion, that Idealism is committed to the view of the world as Spiritual, and that the interpretation of God, man and the world as *thoughts* is as foreign to it as their interpretation into rings of smoke.

If this is so then the arguments advanced by these epistemological critics against Idealism are simply beside the mark. If they are valid at all, which is very doubtful, they are valid against some fundamentally different system of philosophy. Indeed, the service of these critics to students of Hegel, in particular, is confined pretty much to the fact that they have unconsciously drawn attention to the point in which his theory differs essentially from previous systems. For I should say that the most significant advance made by Hegel consists, not so much in his reconciliation of knowledge and reality, as in his refusal to start—as previous philosophers did, and most of his critics still do—from their opposition. If we except Spinoza we may say that modern philosophy up to and including Kant has endeavoured to pass from the subject to the object, from thought to reality, or from reality to knowledge, from the object to the subject. Kant did more than any one else to show that the object implied the subject, and he pointed out also, though less clearly, that the subject implied the object. But subject and object, thought and reality, were never completely reconciled by him. The things-in-themselves became more and more shadowy in his hands, but they never disappeared; in other words, the fact that reality and thought are *essentially* related became ever more clear to him as he wrote, but this relation was not at any time so essential to him as to be *constitutive* of both the related terms. He always took his start from their opposition. He discovered again and again that each term had meaning *only* in re-

lation to its opposite. Sense was helpless without thought, thought without sense; conception without perception, perception without conception; the 'given' or the manifold, without reason and its categories; man and the world without God. But the great step which was implied in all this, but only *implied*, it was reserved for Hegel to take: the step, namely, of making the *opposition* of the terms subordinate and secondary to their unity, and of regarding them as elements of unity. Kant's task to the end was that of reconciling differences, that of Hegel was to differentiate a unity. Kant sought to bring thought and reality together, Hegel starts from the conception of a reality which is all-inclusive, manifesting itself both in the knowing subject and in the known object. Kant had demonstrated to him by his failure that to take either of the alternatives as a starting-point was to make the other inaccessible. Thought in Kant never quite got over to things, and things never revealed their inmost nature in thought, and, in consequence, an element of scepticism, euphemistically and sophistically called 'faith,' was the last outcome. Hegel, therefore, thought to take his stand *behind* these alternatives, on the reality, the All, which manifests itself in both of them. And his relation to this reality is as frank as that of the Materialist, who also has the significant philosophical merit of at once taking his stand on the unity of things. His task was to discover what conception of this single principle, or fundamental unity, which alone *is*, is adequate to the differences that it carries within it. '*Being*,' he found, leaves no room for differences; it is overpowered by them. Quantity, Quality, Measure—all forms of Essence; Substance, Cause, a cause which is also effect—all forms of external relation; even consciousness was inadequate. He found that the reality can exist only as Absolute Self-Consciousness, as a Spirit who is universal and who knows himself in all things. In all this he is dealing with Reality.

Starting with a conception of the Real, the All, which might satisfy a materialist, he moves on, ever dealing with that Reality, to the conclusion that it must be conceived as Spirit. To regard Hegel as dealing with thought-determinations, as generating abstract conceptions out of one another, as needing in the end to leap out of the sphere of mere thoughts into a sphere of reality, is to attribute to him that dualism by repudiating which *alone* he was able to gain his starting-point. Go where Hegel will, he cannot escape from the Reality. He finds it active in all thinking, in all being. No *idea* of the reality interposes between him and it. In

his ideas he detects the working of that reality. Apart from it he cannot even think falsely. His incomplete conceptions are as truly *its* manifestations, the results of *its* activity in him, as the growth of the grass, or the evolution of worlds, are its manifestations. He finds the Absolute, God, in the development of the thought of mankind, in the rise and fall of nations, in the establishment and overthrow of social institutions in the movements of history, just as truly as did the Hebrew prophets, or Carlyle. His task is to find God everywhere, to justify 'the faith'—if I may use this word of what was to him a rational necessity, and not a conviction unjustified by reason—that the Absolute Spirit lives and moves in all things.

This conception, no doubt, brings with it sufficient difficulties. It involves the Absolute in the fate of the finite, and raises in a new form fundamental questions that lie at the root of human life. It may be so conceived as to confuse the human and the divine, to blunt the edge of the opposition between right and wrong, and to make sin and goodness meaningless by undermining the freedom on which their possibility rests. But it is questionable whether any theory confronts these difficulties so fairly, or throws more light upon them. And in any case it is certain that to urge against Hegel or his followers that they are occupied in evolving abstract ideas from each other, that they have shut themselves up in a cloud-land of mere conceptions, and have committed the preposterous mistake of taking knowledge of reality for reality itself, their own passing ideas for things, and their systems and books for the Universe, is an accusation that comes home to roost. It is the critics of Idealism who find ideas interpose between them and reality, and who cannot escape from this shadow of themselves. They, and not the Hegelians or the Neo-Hegelians, find themselves shut up in a world of their own thoughts and are occupied in the hopeless puzzle of getting out of it. They want a theory of thoughts, of their validity and value, as if by thinking they could prove their validity; or as if the *theory* of thoughts were any nearer reality than the thoughts themselves. It is to me the supreme merit of Hegel that he has indicated a way of deliverance from this endless and hopeless puzzle of getting out of thoughts by means of thoughts. And he has done so by planting *himself* to begin with in the system of the real. Instead of regarding reality as circling round *his* ideas, as his critics do, he has brought about the Copernican change. His ideas are the working of reality in him; apart from that reality he is helpless, in so far as he is its

instrument, 'all things are his'. Consequently he has repudiated altogether 'the sphere of thoughts without a thinker,' swept away the world of ideas that divides the thinking intelligence from its objects, left man and the world, thinkers and 'things thought about' fairly confronting one another without any unsubstantial medium to separate them, and done his part to rid modern philosophy of the sickly element of subjectivity. He has, therefore, no Epistemology, and he needs none. His theory is a theory of the real, as Metaphysics was in the hands of Aristotle. In establishing that theory he deprived both thinkers and things of the false independence attributed to them by Individualism, but he did not reduce them into phantoms called thought-determinations, or abstract ideas, or logical categories, nor cut them loose from existence. They remain 'existential realities' for him, for they belong to the system of reality. And the system to which they belong, the Real which manifests *itself* in them is to him, as it was to Aristotle, Spiritual, an intelligence which knows itself in all things. To him there is no activity which, ultimately, is not the activity of Spirit. And, in consequence, the laws of its operations are laws of thinking—not the laws of thoughts. On this account his Metaphysic is also a Logic, a science, not of the connexions of ideas, but of the *operation of mind*. In a word, Hegel speaks of thinking, his critics speak of thoughts, converting his process of Reality into abstract and unreal general notions and his Ontology into an Epistemology.

How such a perversion of his meaning and of the meaning of his idealistic followers has come about, I shall try to show in another article.

II.—ARISTOTLE'S THEORY OF REASON.[1]

By F. Granger.

Alexander of Aphrodisias begins the long series of those who understand Aristotle in a sense decidedly theistic and supernatural. Reason, Aristotle has told us, is present in man as a faculty only.[2] The active operation of thought is determined by the development of this faculty. But Alexander, interpreting such statements, affirms that it is not any part of our own souls which completes this development; we must look to the divine reason which operates upon the human, and indeed is, through this very influence, an object of thought for the human reason.[3] Theological considerations seem to have biassed Alexander's estimate of Aristotle, as indeed they biassed the neo-Platonist commentators who followed him. And if such was the case with these late Greek thinkers, much more was it the case with the great Catholic Aristotelians—Albert and Thomas. When we reach the more recent students of Aristotle, we begin to breathe in a clime more purely metaphysical. And yet in the expositions of the most clear-eyed students of the Stagirite, we often catch, by a certain inevitable necessity, reflected lights foreign enough to that Greek world of the fourth century before Christ. But if we regard Aristotle's theory through any medium other than that of his own age, or in any light but that which is cast upon it by the speculations of his forerunners and masters, we run a great risk of overlooking its unique and distinctive splendour. So true is the instinct which has driven sixty generations of students to busy themselves upon this theory of reason. We have in it a treatment, positive in the main, of a subject which presents many temptations to speculative partisanship—an exposition which *speaks of nothing more than what we are*, and therefore appeals to us with somewhat of the power of the plain truth, when we become weary of more highly coloured delineations of man's place in the world. This neutrality

[1] In the *Classical Review* of July last year I attempted to indicate some aspects of Aristotle's theory of reason, which do not harmonise with certain traditional interpretations; I shall here proceed to some speculative considerations which come in when a more strictly textual criticism has had its say.

[2] *De anima*, 429ª 22.

[3] Zeller, iii. 1³ 796.

of Aristotle has witness borne to it in the many varied meanings which have been read into his work.

The feeling that Aristotle is obscured rather than elucidated by his numerous followers, has often found expression. As long ago as 1581 Patricius announced in his *Dissertationes Peripateticæ* that he was about to shake himself free from Alexander of Aphrodisias, Averroes and the other commentators, and that he would henceforth study the master himself. In the same temper Trendelenburg explains his aim to be that Aristotle should be understood from Aristotle.[1] This is admirable as far as it goes. We are thus disentangled at once from the brushwood and undergrowth that have sprung up around Aristotle's teaching.

But we are not yet satisfied. We want to get at its roots and to explore the soil in which it grew. In order the better to understand Aristotle's theory of reason we need to trace its relations to the theories of Parmenides and Anaxagoras, not to speak of Plato. Zeller would have laid us under even deeper obligations than he has done already, if he had devoted more space to the sources upon which Aristotle drew in this matter. As it is, we feel as we read his account, that the originality of Aristotle may be exaggerated, and that he could not have been so independent of his teachers and contemporaries as at first sight appears. This appearance is undoubtedly due to our scant acquaintance with early Greek philosophy, but even yet we can trace several of Aristotle's leading ideas about the reason to earlier sources.

For example, Parmenides asserts the identity of thought with its object in terms which are repeated by the later philosopher; and even his materialism, his subordination of the mental fact to its physical condition, is not wholly unrepresented in Aristotle, who describes the objects of our apprehension as taking precedence of the perceptive activity.[2] In other words, Aristotle is more inclined to explain the soul through the world than the world through the soul. Like Parmenides for whom the actual world 'that which is' was the proper object of speculation—and this no faint logical shadow but concrete nature—so Aristotle declares with all possible impressiveness that it is the business of the highest speculation to investigate 'being'.[3] And if in the course of the investigation it turns out that the very fibre of reality is eternal, immovable and independent of sensible limitations, we must still bear in mind the 'positive' starting-point,

[1] *De anima*, [2] 103. [2] *Cat.*, 7[b] 37. *Meta.*, 1072[a] 30.
[3] *Meta.*, 1003[a] 21.

the actual environment which is taking these more ideal shapes before our eyes. This however is just where many idealist interpreters of Aristotle fail to do him justice, the failure being twofold. In the first place we invert the Aristotelian procedure completely if we deduce reality *a priori* from the categories of consciousness: in the second place we perform an operation herein which is of less dignity and importance in Aristotle's eyes than the inductive method.

> *Smooth the descent and easy is the way;*
> *But to return and view the cheerful skies,*
> *In this the task and mighty labour lies.*
> *To few great Jupiter imparts this grace,*
> *And those of shining worth and heavenly race:—*

as if a certain loftiness of spirit were implied in the effort to ascend from the particular to the universal, Aristotle never ceasing to dwell upon the majesty which lurks in that mental process by which the universal, the fundamental, is grasped amid the particular and negligible. 'This,' he says, 'would seem to be a special form of soul, an everlasting element which is raised above the transitory and perishable.'[1] And so although he would start with Parmenides from 'that which is' and never lose sight of the limits which hem in the mind's course, his goal—this ultimate stage of thought—is worthy enough. Even on those ethical considerations to which certain schools of idealists appeal when they are about to beg the question, it must be reckoned a more admirable thing bravely to set out from the actual immediate fact and make the best of it, than to assume the inadequacy of our intellectual equipment and so find excuse for slumberous indolence. There are plenty to say: 'The way is long and weary, and many impassable obstacles lie between us and yon distant desired horizon. Let us stay here and make believe that we are there.' In some such terms as these is presented on all sides the temptation to that besetting sin of the intellect, the ignoble idleness which masquerades as peace of mind. Surely this is not an unfair caricature of some systems which set out to deduce reality from an *a priori* principle. 'Perhaps such methods are easy'—so Theophrastus remarks in his *Metaphysics*—'but they neither make for clearness nor produce conviction.' At any rate they are far removed from the method of Aristotle.

Let us approach Aristotle in another way, and this time from the standpoint of certain contemporary critics. The history of early Greek philosophy has been well compared to

[1] *De anima*, 413^{b} 25.

a conversation; as if each statement were either an answer to some question, or else a contradiction of something previously said. And this applies to Aristotle. One point on which he lays much stress in his discussion of the reason is better understood if we take account of his critics of the Megarean school. He seems to have been specially distasteful to them for some reason or other: the head of their college quarrelled with him and spread all manner of scandal about him, and this precedent was followed by later men of the same way of thinking.[1] Aristotle refers in the *Metaphysics*[2] to a favourite tenet of theirs at which he aimed his distinction between the potential and the actual. 'There are some who say with the Megareans that a given potency is present only when it is active, and that when it is not active it does not exist. For example, the builder has not the power of building except during the moments when he is at work. And so on in other cases.' If we imagine the Megareans to apply their argument to the reason, they might say: 'There is no faculty of reason in man except at the moments in which he is actually thinking'. The fortunate preservation of a fragment of Theophrastus' commentary *De anima*[3] shows that this view was indeed put forth by the Megareans in regard to reason. We thus come to see why Aristotle devoted so much attention to this aspect of the matter. 'The reason,' he says, 'exists actually only at the moments when it is operative.' So far he agrees with the Megareans. But he proceeds[4] in the spirit which led Lotze to distinguish different grades of validity: 'Those who say that the soul is the sphere or home of forms are right if their statement is limited to the highest or rational stage of the soul's development: and if we understand the reason to be *potentially* identical with the forms and not *actually* so'. And he further develops this distinction by marking the successive heights of the mental ascent. The cultured reason, like the uncultured, has but a potential existence except at its seasons of activity. But how different the lurking possibilities! On the one hand, the mere promise of a future life of intellect: on the other, a ripe faculty ready to burst at once into the noblest processes of mind!

But if we understand Aristotle's theory of reason better when we trace his relations to Parmenides and the Megareans, we are likely to receive more striking illustrations still when we betake ourselves to the teachers whom he avows, Anaxagoras and Plato. 'If the reason is to think all things

[1] *Dio. Laert.*, ii. 109.
[2] 1046^{b} 29.
[3] Themistius (Spengel), i. 198.
[4] *De anima*, iii. c. 4.

it must be free from admixture of foreign elements.' Here is a thought of Anaxagoras. 'For that which is foreign blocks out and eclipses the objects of our mental vision.' Hence the constitution of the reason must lie in its pure potentiality, in its being capable of taking upon itself, of being realised in, every intellectual form. Or to use Hegel's suggestive figure: 'Every man is a whole world of conceptions which lie buried in the night of the Ego'.

We now come to Aristotle's immediate predecessor and master, with whose followers he classed himself even in his latest writings. In the *Metaphysics* he can still say, when referring to Plato's distinctive teaching: 'As we hold' or 'believe,' and the like; apparently adhering still to the tenets of the Academy. And so we shall be more nearly right if we dwell upon what he retained of his early studies than upon what he cast off. Just as the Platonic system starts from the Idea and finds in the reason the faculty in which the Idea is echoed or reflected, so Aristotle assumes the objects of the intellect *τὰ νοητά*, and from them explains the faculty which apprehends them *ὁ νοῦς*. The alterations which Aristotle's theory of Universals involved in his theory of the reason are not so fundamental as to disguise its close relation to the Platonic theory. The supremacy which was assigned there to the Idea of the Good, now passes to the purely intellectual objects. But on Aristotle's theory we need not recall them from any pre-natal life; we find them to hand in the concrete objects of present experience. 'In material things,' Aristotle declares, 'each intelligible is potentially present.'[1] And this dependence of the human reason upon outward conditions is used by him to account for the intermissions of its activity. In Aristotle's view, then, the activity of reason depends upon complex conditions: it is the joint product of a potency within and a potency without; reason waiting for its objects, intelligible objects waiting for a reason to think them—the *discerning intellect of man* waiting to be *wedded to this goodly universe.* Herein, Aristotle would seem to say, is the crown and consummation of that long process of striving which finds its realisation in man at his best. This is that eternal activity of reason which is the noblest of all activities—eternal because it is an integral factor in the world—an activity unaffected, unblurred, by the infinite diversity of its objects.

Some who would enrol Aristotle as a partisan in modern

[1] *De anima*, 430ª 6.

theological controversies pass over this 'positive' aspect of his teaching, his resolute self-limitation to actual human experience, and attempt to extract various mystical senses from his theory of the active reason. Yet in the *Ethics* and the *Psychology* alike, he declines to go beyond problematic statements when he speaks of the life after death.[1] He glosses over his personal convictions only that he may not wound the feelings of his less philosophic contemporaries.[2] Thus he bounds his ideal state by the limits of this present life. In Mr. Stewart's words, '*εὐδαιμονία* is the form and organisation of man's powers and opportunities'. . . . '*νοῦς* in man, like *φύσις* in nature, recognises and imposes definite limits'.[3] The same profound insight, which as it gazed upon the particular fact was rewarded by the beatific vision of the intelligible, also found in human life at its highest, an existence than which, amid its interruptions, the divine life was better merely for its unbrokenness. And so as Aristotle moves amid the phases of this human life he is impressed by its majesty—a feeling voiced in his use of the word *τίμιος* here and there.[4]

We have thus traced some of the influences which have determined Aristotle's view of reason. Let us now attempt to draw from his works a more rounded outline of his theory. In the *Psychology* he treats reason as a faculty which is organically related to other faculties; in the *Posterior Analytics* as the organ of knowledge; in the *Ethics* as occupied with matters of practice; in the *Metaphysics* as attaching to the noblest existences and therefore to God.

Aristotle, like Plato, disentangles the thread of conscious life into two main strands, sense and thought, and these again he sunders into their component fibres. Laying sensation on one side, let us see what he finds in *νόησις* the activity of reason. He detects here two main elements, *φαντασία* the power of representation, *ὑπόληψις* the power of conceiving something as true—*sumere aliquid pro vero*—in Bonitz's words. The latter power is further sub-divided [5] into *φρόνησις*, the worldly wisdom, prudence or tact that comes of experience; *δόξα* the unscientific judgment in which the experienced but undisciplined mind finds expression, and lastly *ἐπιστήμη*, which knows things through their causes. *Ἐπιστήμη* may present itself under three aspects: *ἐπαγωγή* the assembling of particulars in the act of induc-

[1] *Nicom. Ethics*, 1101ª 23. [2] *Ibid.* [3] *Notes, Nicom. Ethics*, vol. i. 95.
[4] *De anima*, 402ª 1, 414ᵇ 19, &c. [5] *Ibid.*, 427ᵇ 25.

tion; νοῦς the intuitive faculty by which the detached attributes are cemented together into the indissoluble unity of the true concept, and lastly the process of discursive reasoning συλλογισμός. We may notice in passing the ambiguity which attaches to Aristotle's use of the term νοῦς; now he extends its meaning over the mental field until it embraces all the processes just enumerated, even as far as imagination; now he understands the term in its more special and deeper sense, as the faculty of inward intuition. This ambiguity was pounced upon by Simplicius[1] and Priscianus Lydus.[2] And it must be borne in mind as we move amid the intricate mazes of Aristotle's system.

Over against this imposing array of functions, Aristotle ranges a scale of the objects upon which they are exercised. Let us first single out and put on one side the objects of sense-perception. Sensible objects τὰ αἰσθητά fall into ἴδια those which are proper to each sense, such as light and colour to vision, sound to the ear; κοινά the common sensibles, those which are apprehended by several senses equally, such as motion, number, shape; τὰ κατὰ συμβεβηκός, the objects disclosed incidentally in the act of sense-perception, such as that yonder whitish-grey object is a sheep or an eagle.[3]

The objects of experience being either sensible or intelligible, every object falling outside this list must be included under the objects of reason. What are these? No violence is threatened to Aristotle's meaning if we turn for an explanation to the passage in which he distinguishes the several classes of thinkers, beginning with those whose operations are nearest in kind to the primal sensible experience: the physicists. Next after them come the mathematicians, and lastly the philosophers *par excellence*. The physicists, he says, are occupied with the objects contained or embodied in matter τὰ ἔνυλα: the mathematicians, with objects embodied in matter, but separable by a logical abstraction τὰ ἐξ ἀφαιρέσεως: the first philosopher, with the immaterial essences which stand in no necessary implication or connexion with matter τὰ ἄυλα.[4] Here then we have a triple division of intellectual objects, and three corresponding manifestations of the intellectual faculty.

It may not be out of place here to dwell for a moment upon Aristotle's view of induction. It differs in some important particulars from that current conception of the

[1] *De anima* (Hayduck), 220, 38.
[2] (Bywater) 29, 5.
[3] *De anima* 418[a] 7.
[4] I *De anima*, 403[b] 11.

process which represents it as mediate, as accumulating its material before beginning to operate upon it. Mill, for example, declares[1] that 'the first step of inductive inquiry is a mental analysis of complex phenomena into their elements, the next is an actual separation of those elements'. This is unexceptionable if we understand the statement to refer to an ideal or standard method such as indeed logic is properly occupied with. But it fails to represent the process by which the mind actually forms complex inductions. For the mental analysis of which Mill speaks must be undertaken from a standpoint which already is more or less defined. The mind must already have some clue before it begins the process of analysis, if it is not to lose itself amid the infinitely numerous conditions which attend each phenomenon. Mill himself is careful to point out in the sequel how indispensable the hypotheses are which shall serve as clues. But these hypotheses are not external to the inductive process proper, they are in truth inductions in their nascent stages. They are the inklings, more or less apt, of the laws under which are combined the particular experiences of which the hypotheses are the psychical summaries: a hypothesis being an intuition more or less imperfect of the facts which will be more perfectly formulated later. Thus induction, at its best, really consists of a series of intuitions each clearer than the last, each portraying a phase of the truth, unsatisfactory in itself but blending and melting into a newer and clearer phase.

Perhaps the distinction between the two points of view may be emphasised thus: Before analysis of a mental state is possible it must have attained a considerable degree of clearness and distinctness. Hence the mere assumption that we can proceed to 'mental analysis of complex phenomena into their elements' implies a long preparatory stage in which our first ideas—vague and confused—have passed into concepts, clear and distinct. The logician proceeds on the assumption that all his subjects and predicates are completely determinate, moving in a sphere as little realised in positive experience as the purely geometrical world described by Euclid. Just as the progress of mechanical nicety—say in the preparation of specula for telescopes—consists in an asymptotic approach to a geometrical accuracy, so the inductive process in a scientific experience consists in a series of attempts to represent the truth, an aim never completely realised, though with marvellously near approaches to the desired goal.[2] In some such terms as these may we para-

[1] *Logic*, bk. iii., *cf.* pp. 1, 2. [2] Jevons, *Principles of Science*, chap. xxi.

phrase and develop the famous passage at the close of the *Posterior Analytics*, a passage repeated with but few alterations in the beginning of the *Metaphysics*. 'A memory of the same circumstance becomes an experience when oft repeated. For memories, numerically many, enter into a single experience. And the principles of science take their rise in experience, in the universal which persists in the soul.' And in the closing lines of the book he defines *νοῦς* or reason to be the faculty engaged in this process. We are now perhaps in a position to understand what Aristotle means when he speaks of the science which directs its intuitions upon Being. In the spirit of the method just outlined he proceeds in the *Metaphysics* and elsewhere by a series of approximations, essaying every approach to his subject, now starting one suggestion, now another, in that fashion which is at first so bewildering to the student of Aristotle.[1] Yet his inconclusive procedure is well adapted to the ends he designed. To involve the inquiring mind in perplexity, to baffle it with repeated questions, has at least one good effect. It impresses it with the complexity of the problems which are set before it, and ensures in some degree that 'the universal which persists in the soul,' the intuition in which amid changing memories the true experience is apprehended, shall have penetrated beneath the surface of the immediate fact.

But this very reason, which has such an intuitive apprehension of eternal truths, can also be directed upon those elements of experience which are changing and evanescent. The speculative reason is not fundamentally other than the practical or deliberative reason; its manifestations alone are different.[2] Disciplined and developed by its quest after the arcana of knowledge, it returns with increased power to those problems of the particular and contingent which it passed on its way.

Such then is reason according to Aristotle, in its development, its operations and its ultimate form. Two questions have often suggested themselves to students of this theory, which we may now attempt to answer for ourselves. In the first place what does Aristotle mean when he says that reason is identical with the object of reason? Undoubtedly he must have taken account of Parmenides' statement to the same effect. It is worth while to dwell for a moment on the explanation with which the Eleate follows it up:—[3]

> To think is one with that of which the thought is,
> For you shall not find thought without being.

[1] *Cat.*, 8^b 22. [2] *Nic. Ethics*, 1139^a 21. [3] Ritter and Preller, 97.

In a paraphrase this might run: All operations of thought are identical with their objects. But you may not convert the proposition *simpliciter*. You may not say: All objects of thought are identical with operations of thought, for it may happen at some moment that a given potential object of thought is not entering into any intellectual experience. Not to speak of other cases, the mental life of the individual suffers interruption in sleep. Doubtless such an interpretation as this misrepresents to some extent the cruder vein of Parmenides, who seems to have regarded thoughts as materially identical with their actual objects.[1] It squares, however, with Aristotle's treatment of the subject, and his theory of formal identity. As for Parmenides, so for Aristotle, the presence of an object is a necessary condition of thought. 'Reason,' he says, 'stands in a receptive relation to its object.'[2] But Aristotle marks off his standpoint from that of Parmenides by limiting this identity of thought with its object to immaterial things. The identity is one of form not of matter.

Yet in thus limiting the statement of Parmenides, Aristotle would not regard himself as having weakened it in any essential point. After all the true reality of each element in the universe consists in its active manifestation or function; and this the Aristotelians expressly identified with the logical essence.[3] Hence when reason is declared to be receptive of the essence, it is declared to enter into, and to find itself identical with, the functions and offices of which reality is constituted. Thus in reflecting upon the intelligible processes of nature, reason becomes one with its fundamental elements.

Further, the reason which is thus in possession of the essences of objects thereby also contains their cause. It is not indeed their efficient cause—it is not the creator of the world in which it finds itself. (For that matter there is no room for the idea of creation in a system like Aristotle's which represents heaven and earth as eternal.) Yet in containing the formal causes of things the reason lies very near to the heart of the world. Reason is a cause not as making the world what it is, but as entering into it as an indispensable factor. And since it thus stands in the highest rank of the cosmic hierarchy, intelligent life is necessarily eternal; a presumption strengthened if we should see reason to believe, as the Aristotelians did, that the organ of reason, the human species, was eternal.

[1] *Theophr. de sensu*, c. 1. [2] *Meta.*, 1072^{b} 22. [3] *Theophr.* (Wimmer), Fr. 24.

Aristotle's favourite distinction between potency and realisation would suggest to us that he regarded the individual as a focus at which various potencies converge, the realisation of each essence implying the meeting together of certain potencies. Thus the individual human soul offers a *rendezvous* at which the potential objects of reason which are present in this material world may meet with that faculty which is potentially identical with them, and may blend with it into a single process. And in this sense the reason may be said to become its objects.[1] For the forms or universals on which reason engages itself are also the successive phases of the life in which it manifests itself. The act of thought by which a universal is conceived is also a revelation of the thinking faculty. The objects of reason are moments in the life of reason.

The other point which suggests itself for elucidation is this: 'What is the occasional cause which sets reason to work? The famous fifth chapter of the third book *De anima* does indeed seem to imply at first sight the dependence of the human reason on a universal reason. But such an interpretation is discordant with the rest of Aristotle's system, and is not required, or indeed, I venture to say, admitted by the text.[2] The reason is a psychical faculty and is only found where there is a psychical life; in man or in higher beings, that is to say, in God.[3] To postulate a universal reason beyond these individual beings is to introduce the Platonic ideal theory into the peripatetic citadel. There is a universal reason, Aristotle might be supposed to say, in the same sense that there is a universal humanity. But this reason is found in individuals alone. Yet something more must be understood here than a bare nominalism. In the case of immaterial objects the notion is identical with, and in, each particular instance. The notion of soul is identical with the soul.[4] Hence it is one reason that operates in you and in me, and—so Aristotle declares—in God![5] But there is no relation of dependence between reason in man and reason in God. They exist side by side in the sum of being.

A fragmentary statement of Theophrastus might also seem to support the view contested here. In a somewhat striking passage[6] he speaks of the development of reason as necessarily either from within or else under the influence of

[1] Prisc., *Metaphr.*, 29, 18. [2] See my article, *Class. Rev.*, vi. 298 ff.
[3] *De anima*, 414^b 19. *Meta.*, 1072^b 29. [4] *Meta.*, 1043^b 1.
[5] *Meta.*, 1027^b 25. [6] Prisc., *op. cit.*, 29, 15.

some other reason. There might seem at first sight some ground here also for interpreting this other reason as a world-reason filtering in upon our souls from beyond. But there is a more obvious interpretation lying close to hand. Let us leave these *watch-towers in the skies* for the firm earth of historical fact, and cast one glance upon Aristotle's intellectual career. In his student days, and still more in his years of teaching, he must often have seen how mental discipline at the hands of his seniors can transform the uncouth lad into a subtle thinker, how *lofty thought lifts a young spirit from its mortal lair;* the process being most impressive when lofty thought walks the earth in the garb of a great teacher, the austere homespun of Socrates or the fastidious attire of Plato. An explicit reference of Aristotle[1] leads us to connect his theory of reason with the processes of education. He is considering the different senses in which we can ascribe intellectual endowment to human beings, and points out that the latter phases of their development transcend the earlier ones through 'learning and discovering': instruction and the discursive activity of which the reason thereby becomes capable thus being the main factors in the change. The clash of spirit with spirit in the dialectical exercises of the Academy and Lyceum would furnish examples of this striking enough. Aristotle thus carries us back to one of his favourite maxims: that education demands natural endowment and instruction and practice; his emphasis of 'discovering' being directed against the notion that teaching alone was adequate. For the rest his reference to learning carries us back to the Socratic tenet that all knowledge and capacity lie dormant at first, and require the stimulus of wisely directed questioning in order to manifest themselves. Here surely we have that influence of an external mind which in Theophrastus' view may supplement the development of the reason from within. It may appear somewhat of an anti-climax to pass from anything so magnificent as a Theory of Creative Reason to Aristotle's experience as a practical teacher. But the fault is in our perception, not in the subject. Now-a-days we are wearied by platitudes concerning education, and our edge being dulled, we can no longer penetrate the exquisite issues that after all are at stake. Hence it is somewhat hard for us to picture the glowing enthusiasm with which perceptive minds watched the great experiment in its first beginnings at Athens; the systematic attempt of society to further the mental development of its individual components.

[1] *De anima*, 429^{b} 6 ff.

III.—METHODS OF INDUCTIVE INQUIRY.

By Henry Laurie.

Mill's System of Logic still holds its own in our Universities, and is likely to be retained as a text-book for a considerable time to come. No one is supposed to have made an adequate study of the Logic of Induction who does not know his Mill. We can no longer say, with Lewes, that "to the vast body of cultivated Englishmen his Logic has sufficed for all their instruction in Philosophy"; but the belief is apt to linger that it contains all that is needed for instruction in Inductive Logic. And later works on the subject by English writers, friendly or hostile, lead us back to Mill by repetition or criticism of his teaching.

The conviction, however, is gaining ground that Mill's Canons of Proof, which have been committed to memory and poured forth on reams of examination paper by successive generations of students, are not to be received with that entire faith which they have been wont to inspire. If this impression be correct, it is not enough that their faults should be pointed out; it is important also that better rules should be devised to take their place. It is my purpose, in this paper, to suggest amended Canons, which will be found to differ very considerably from those of Mill. Starting from his treatment, and having no desire to deviate from it save where emendations are imperatively required, a brief review of his Canons will lead most naturally to the amendments which I propose.

First, then, of the

Method of Agreement.

Mill's Canon runs thus:—

"If two or more instances of the phenomenon under investigation have only one circumstance in common, the circumstance in which alone all the instances agree is the cause (or effect) of the given phenomenon".

This is illustrated by the formula:—

ABC	ADE
abc	*ade*

These cases agree in the presence of A and *a*. If we have ABC with the effect *abc*, and ADE with the effect *ade*, then, it is argued, *a* must be the effect of A. Antecedents other than the constant A are set aside as unconcerned with the

production of a, since a has occurred without them; and consequents other than a are dismissed as unconnected with A, since A has appeared without ensuring their presence.

But how have we secured that point of departure which the argument requires? In our application of the Method we are asked to *begin* with complex generalisations; but how have these been attained, and to what test have they been subjected? The universe, in the impressive phrase of Mill, presents itself at first as a chaos followed by another chaos; and after mental analysis it still exhibits a vast multiplicity of antecedents and consequents. It is very far from accommodating us at once with limited sets of phenomena answering to our alphabetical illustration. Our problem, indeed, is to formulate tests by which generalisations may be tried; we wish to know on what conditions we are justified in proceeding from the observation of particular facts to universal laws; and we are moving in a circle if we begin with complex generalisations as already established. As Mr. Bradley has shown, Mill begins with prepared material. We are presented at the outset with complex antecedents and consequents, said to be causally connected; and the only task which remains is to draw from these carefully prepared data, by the elimination of some of the factors, the expression of a simpler uniformity. Even were *this* successfully accomplished, it would not give us what we want; for the complex generalisations themselves require justification. As Whewell put it, we are not "to take for granted the very thing which is most difficult to discern".

From other points of view, Mill himself has shown us that his Canon is too strongly stated, and that his symbols are inapplicable. It is required by the Canon that there shall be only one antecedent common to our instances. But Mill tells us that it is impossible to assure ourselves of this. We may go further, and say that in every case we may easily assure ourselves to the contrary. For every event there are an indefinite number and variety of immediate antecedents, not one of which can, prior to investigation, be pronounced irrelevant to the result. There are permanent causes, which cannot be set aside *a priori;* there are facts which, though not permanent, are of frequent recurrence; and in addition to the antecedents we know, there are others of which we are ignorant, so that our a may be the result of conditions which we have not discerned. Thus the Canon is faulty in laying down a requirement which cannot be satisfied. Again, the plurality of causes is said to be the "characteristic imperfection" of the Method of Agreement, and though this plurality, like the "multiplication of effects," may dis-

appear before a searching analysis, there is a popular sense in which it must be admitted; it is obviously true, for example, that equal quantities of heat, of light, of mechanical motion, may be produced by various agencies. The phenomenon *a*, as Mill remarks, may at one time be caused by C, at another by E; and he might have added that, if a constant antecedent A contribute to the result at all, it may do so in conjunction with other factors. To escape from the difficulty of plurality of causes, we are recommended to multiply and vary our instances indefinitely, so that here again the Canon, with its limited requirement of "two or more instances" in proof of causation, calls for emendation. And after having been sent as far afield as possible in the search for instances, we are told broadly that by the Method of Agreement alone "we never can arrive at causes"; we cannot gain even a derivative uniformity of causation, but at best an empirical law of sequence. Our instances still leave us in uncertainty whether or not they contain the vital points of agreement; they may yield us only sequences which, though dependent on causation, are not themselves causal; and so the Method is, by itself, powerless to link together the conditions and the conditioned. The Canon of Agreement is thus torn to pieces by the hands which constructed it.

In endeavouring to amend the Canon, I propose to restrict it to the results of observation in the more limited sense of the word, excluding experiment. According to Mill, the Method of Agreement is "more especially the resource employed where experiment is impossible". But he applies it to cases in which experimental trial is an essential feature, and in his miscellaneous examples he extends it to the subsumption of laws, already supposed to be ascertained, under a higher law. Cases in which the test of experiment is employed fall within the Method of Difference and may be adequately dealt with there; while the subsumption of laws is best treated, where Mill has placed it in a later chapter, under the general title of the Explanation of Laws of Nature. The problem being thus limited, I would suggest the following Canon:—

> When within our experience a given antecedent has always been followed by a given consequent, or when phenomena have always been found accompanying each other, there is a probability that the given antecedent and consequent, or the concomitant phenomena, are connected by a law of causation; and this probability increases with the number and variety of the instances.

This rule, it will be observed, does not profess to be a rigid Canon of *proof;* it contents itself with indicating a *probability* which may range from a very low to a very high degree. It embraces concomitant as well as sequent phenomena, and while in this respect it agrees with the method of simple enumeration, it differs from it in the stress which it lays on the variety as well as the number of instances. To enhance the probability, we must deliberately assemble, not only as many but as varied instances as possible. In including concomitant phenomena, I deviate from the intention of Mill, who is occupied in his Canons with phenomena of succession ; but there is no reason why phenomena which occur simultaneously should not be investigated under this Method. In the course of an investigation it may be sometimes difficult to ascertain if two phenomena are exactly contemporaneous, or if one is prior to the other ; and when this difficulty is overcome, observed coexistences, no less than sequences, may help us on our way. In the first place, the Method indicates the probability of empirical laws, or, in other words, of uniformities of sequence or coexistence which have obtained hitherto within our experience, and which may therefore be provisionally accepted. Further, it indicates that there is a reason for the sequence or coexistence in some causal uniformity connecting the phenomena in question. What this causal law may be is not yet known, and cannot be known by the Method of Agreement. The mere sequence of phenomena, even though it be uncontradicted within the range of our personal experience, or of testimony, does not prove the phenomena to be related as cause and effect ; their succession may be due to the sequence of other conditions. And derivative laws of coexistence may be due to the presence of causes into each of which the same condition enters. All this must be the subject of inquiry lying beyond the scope of this particular Method. The Method points to the probability of some law of causation, which, if discovered, would explain more satisfactorily the facts disclosed to our observation. This probability is merely a stage in our progress, and we must not rest here if it be possible to go further. Agreement serves to stimulate hypothesis, and paves the way for other and more effective methods.

It may be added that the probability of causal connexion is not necessarily destroyed by a failure in the absolute uniformity of agreement. If, in many and varied instances, we have found A followed by a, and subsequently encounter an instance, or perhaps several instances, in which A makes its

appearance without *a*, we are not to conclude that the probability yielded by the more numerous positive instances is to be wholly set aside. We must bear in mind the possibility of counteracting conditions to which, in the exceptional cases, the absence of *a* may be due. The frequent concurrence of phenomena is enough to suggest the hypothesis of a causal relation, as against the less probable conjecture of a chance coincidence. The remark of Sir John Herschel that "counteracting or modifying causes may subsist unperceived, and annul the effects of the cause we seek, in instances which, but for their action, would have come into our class of favourable facts," may be appended as a useful caution to the statement of our Canons.

As an example of the application of the Method of Agreement, let me take the remarkable coincidence which has been found to obtain between the phenomena of sunspots and magnetic disturbances on the earth. On given dates, when sunspots were numerous, the disturbance on the sun's surface has been accompanied by magnetic storms in England and America. The concurrence of these phenomena on one, two, or three occasions might have been put down to mere coincidence; but frequent concurrence strongly suggests a causal connexion. The probability increases with the number of concurrences under circumstances otherwise varied. When it is found, on comparing years of great sunspot disturbance with years of great magnetic disturbance, that there is a remarkable agreement, and when further, on comparing a large number of individual instances, it is observed that the two sets of phenomena agree in the very day of their occurrence, the terrestrial phenomena being simultaneous with, or immediately sequent on, the observations of solar commotions, the probability of a causal connexion obviously increases with the number of such instances. But after all both sunspot and magnetic disturbances may be the index of some cause, as yet unknown, which gives rise to both phenomena. The Method of Agreement, while giving us a strong probability of causal connexion, is powerless to disclose what this connexion is.

Method of Difference.

As this is the great method of experiment, there can be no doubt of its importance and power. The only question is, how the Canon regulating its employment can be best expressed. Mill's statement is :—

"If an instance in which the phenomenon under investiga-

tion occurs, and an instance in which it does not occur, have every circumstance in common save one, that one occurring only in the former ; the circumstance in which alone the two instances differ is the effect, or the cause, or an indispensable part of the cause, of the phenomenon ".

The formula by which he illustrates the Canon—

ABC	BC
abc	*bc*

—may be looked at from two points of view. We may know, to begin with, that given ABC, the effects *abc* will follow ; and we may then be fortunate enough to succeed in making, or in finding, an instance of BC followed by *bc*. Or we may know that the effect of BC is *bc* ; we may then add to our antecedents the new antecedent A, obtaining the augmented result *abc*. In the first case, eliminating A, we eliminate *a ;* in the second, adding A, we obtain *a ;* and thus, in either aspect of the Method, we are invited to accept the conclusion that *a* is the effect of A, or that A is the cause, or an indispensable part of the cause of *a*.

It is clear that Mill's Canon and formula presuppose the knowledge of a complex law of causation linking together definitely known antecedents and consequents. They assume that, before proceeding to apply the Method, we have dismissed from our consideration a vast number of circumstances " already known to be immaterial to the result," and have surmounted any difficulty which might arise from the presence of unsuspected conditions. It is taken for granted that, in some way which is not explained, the infinite complexity of nature has been narrowed down, for our immediate purpose, into a limited group of antecedents and consequents with which alone we have to deal. The position from which we are thus invited to set out is very far from the beginning of experimental inquiry ; the clear-cut instances supposed are possible only in an advanced stage of scientific research. In such circumstances the Method, as Mill has formulated it, may be applicable. When the experimenter has reached the happy assurance that all the relevant facts are within his grasp, he is certainly warranted in concluding that, in the particular experiment in which he is engaged, the exceptional antecedent has some share in the production of the exceptional result, and that, should the same conditions again occur, the same result must be realised. Even then, however, it does not follow that the Method is free from the imperfection of plurality of causes. It does not tell us that the result can be produced only in one way. Admitting a possible plurality of causes, we have no right to assert that

the A which contributes to an effect in a certain instance is always indispensable to its appearance. And Mill himself, though speaking of the Method of Difference as free from the characteristic imperfection of the Method of Agreement, immediately afterwards acknowledges that, while his formula may prove A to be the cause of *a* in a given instance, "the cause which produces it in other instances may be altogether different".

We see, then, the direction in which the Canon requires amendment. Our problem is to set forth the grounds on which we may legitimately pass through experiment to the inference of a universal law; and our solution is incomplete unless it covers the simpler and more elementary experiments of science and of daily life, as well as the most advanced examples of carefully prepared experiment. In every successful experiment there must, at least, be negative and positive instances corresponding to the two sides of Mill's formula. But it is not absolutely necessary that we should be already in possession of a definite uniformity of causation, or that we should have a thorough knowledge of all the antecedents which may possibly be relevant. Such knowledge is eminently desirable, but we must often be content with less, and at the beginning of an inquiry it is manifestly beyond our grasp. We have our negative instance whenever the circumstances are powerless, so far as our observation goes, to produce a certain effect. If then a new antecedent be introduced into these circumstances, and the effect in question occur, the presumption is that the new antecedent has had its share in the production of the event. A slight change in Mill's formula will suffice to illustrate this. Let us suppose our antecedents and consequents, instead of being strictly limited, to be indefinite in number; we may then, following Dr. Venn's suggestion, illustrate the phenomena which are unknown to us, or to which we have paid no particular attention, by dotted lines. The formula may then stand as follows:—

BC	ABC . . . .
bc	*abc* . . . .

In the first or negative instance, we have antecedents and consequents of which some are known, some unknown; but we are unable to discern A among the antecedents or *a* among the consequents. Now let the antecedent A be introduced, and we at once have *a*. There is a possibility, of course, in the supposed indefiniteness of our knowledge, that some unsuspected circumstance has crept in, and that this, instead of A, is the condition which has led to the appearance of *a*. If we have reason to fear that such is the case, or are unable

to vary one circumstance only at a time, the probability of our causal sequence is *pro tanto* diminished. These are well-known hindrances in what Pasteur has truly called the difficult art of experimentation. On the other hand, if our previous knowledge of the region of inquiry is so great as to afford us a high probability that the introduction of A is the only difference, or the only material difference, then we have an equally high probability that A is a factor in the production of *a*. The Method of Difference, therefore, important as it is, cannot be regarded as a criterion of complete proof in every case of experiment ; we must recognise an increase of probability in proportion to our exact knowledge of the antecedents in the negative and positive instances.

It is at least something to have established a probability that A is the cause, or part of the cause, of the effect in question. But we need not stop here. It is our business to exclude from our antecedents all indifferent circumstances, and we may endeavour to do this by a series of further experiments, narrowing the relevant antecedents, and at the same time confirming the connexion of A with *a*. Thus we may test the antecedent B, comparing sequences in which B is absent with others in which it is present. If we succeeded in obtaining the sequences—

ABC	AC . . . .
abc	*ac* . . . .

—we should then learn, since B is absent in the second instance, that *a* has been produced without B. Or, on the other hand, if *a* failed to appear in the absence of B, we should infer that B is a coefficient in its production, A by itself being insufficient for the purpose. The same process of elimination or retention might be extended to C, and to other antecedents into which a fuller inquiry might be made ; and we should thus learn what circumstances, within our experience, have really contributed to the production of *a*, and what may be excised as non-essential. This gradual process is not so speedy as Mill's canon and examples suggest, but it is actually resorted to, both in our ordinary and in our scientific inferences.

Gathering up the results of these observations, I would propose the following Canon :—

> If, into circumstances found to be incapable of producing a certain event, a new phenomenon or set of phenomena be introduced, and the event in question occur, the new phenomenon or set of phenomena is the cause, or part of the cause, of the event. If the removal of any given antecedent makes no

difference in the occurrence of the event, that antecedent is irrelevant, while antecedents which cannot be eliminated without eliminating the event are causal. And the Universal Law of Causation compels the inference that, if these conditions be repeated, the effect will also occur.

A Method which is exemplified in every successful experiment needs little or no illustration. But it may be worth our while to examine the actual working of the Method in two of the simplest examples chosen by Mill. "When a man is shot through the heart," he tells us, "it is by this Method we know that it was the gunshot which killed him: for he was in the fulness of life immediately before, all circumstances being the same except the wound." This is offered as an example of inference by a single application of the Method of Difference. In such a case it is probable that we should merely apply, deductively, a general truth of which we are already possessed; but to give the method fair play, let us suppose that the occurrence has been witnessed by some one who, like Crusoe's man Friday, has hitherto known nothing of the use of firearms, and is ignorant of the law in question. The exceptional antecedent and consequent would at once arrest his attention, and he would conclude—and rightly—that they were causally connected. But what causal *law* would he be entitled to draw from this instance of the Method of Difference? If he were asked—Would every gunshot wound cause death? must the wound be through the heart to effect this result? would death be caused in all cases by a similar wound? or was it owing in part to the man's peculiarity of constitution?—he could not legitimately answer these questions from the single application of the Method. His experience of wounds otherwise inflicted might suggest answers; but this would take him beyond the negative and positive instances actually before him. The only inductive law that he would have a right to assert would be that, in precisely similar circumstances, the gunshot wound would have a similar result; but he has still to learn, by further investigation, what circumstances are essential, what indifferent.

Take again the illustration which has been curtly, but effectively, criticised by Mr. Bradley. "As a truth made known by the Method of Difference," says Mill, "'Fire burns' might have sufficed. Before I touch the fire I am not burnt; this is BC; I touch it and am burnt; this is ABC, *a* BC." Is any one, on being once burned by a fire, entitled to pass to the large generalisation that all fire burns,

or even that it will burn him when touched? Certainly not. Logically, he is entitled only to the inference that a similar fire, in similar circumstances, will burn. No doubt the child, on being burned by a fire, will dread anything bearing a similar appearance, though in many respects dissimilar; burned in consequence of placing his finger in a fire in the grate, he will dread the flame of a candle. But though this may be called inference it is not proof. Similar expectations, or inferences, will often lead the child into error. Let him touch a heated stove where the fire is concealed. He is burned, and he may infer that he will always be burned on touching a stove, the true inference being that touching a stove under certain conditions will burn him. Or again, he has experienced a sensation of sweetness on tasting sugar; he may expect a similar sensation from any other substance of a similar white appearance; but he finds out his mistake if he tries the salt-cellar. Thus, while a single instance warrants the conclusion that antecedents which include the fire will suffice to burn him, a process of elimination is required to ascertain what the essential conditions are. Such a process of continued elimination goes on throughout our ordinary inferences, while in science prolonged and varied experimentation is the rule if we wish to discover causal uniformities.

Double Method of Agreement.

This Method, called by Mill the Joint Method of Agreement and Difference, or the Indirect Method of Difference, is said by him to consist in "a double employment of the Method of Agreement". It has thus acquired the simpler and, as I think, preferable title of the Double Method of Agreement. The principle of the Method is sound. In the Method of Agreement, when a phenomenon is always found to be associated with another, there is a probability that they are connected by a law of causation. In the Double Method, we extend our survey to instances where one phenomenon is absent, and, finding the other phenomenon also absent, the probability of a causal connexion between the two is strengthened. To use the apt expressions of Dr. Bain, we have not only agreement in presence, but also agreement in absence. There is an analogy between the two aspects of the Method, and the positive and negative instances of the Method of Difference; hence the titles preferred by Mill. But here, again, questions arise as to the value of the Method and the best expression of the Canon. As stated by Mill, it presents some difficulty:—

"If two or more instances in which the phenomenon occurs have only one circumstance in common, while two or more instances in which it does not occur have nothing in common but the absence of that circumstance; the circumstance in which alone the two sets of instances differ is the effect, or the cause, or an indispensable part of the cause of the phenomenon".

Mill has given us no symbolical formula of the Method, and there are differences of the interpretation.

1. The Method has been sometimes illustrated by the following formula:—

ABC	ADE	BC	DE
abc	*ade*	*bc*	*de*

Here, on one side, are instances of agreement in the presence of the phenomena A and *a*; on the other side, instances of agreement in their absence. But, after all, this is only a twofold application of the Method of Difference; and, if this had been Mill's meaning, its statement as a separate Method would have been superfluous.

2. The Method has been held to be more correctly symbolised thus:—

ABC	ADE	FI	KL
abc	*ade*	not followed by *a*	

We have here, on one side, instances of the Method of Agreement, while on the other we have instances agreeing with each other in the negation of A and *a*, and having no positive factor in common with our first two instances.

3. A variation may be made in this formula if, while excluding A and *a* from our negative instances, we admit into these other elements which have appeared on our affirmative side. Thus we might have—

ABC	ADE	BDMN	CEOP
abc	*ade*	not followed by *a*	

The last two instances may be regarded as negative, since they exclude the phenomena A and *a* which form the subject of our inquiry. They admit other elements from the affirmative side; and yet the formula is differentiated from that of the Method of Difference by its failure to present BC or DE together, apart from A.

4. Lastly, Dr. Venn's rendering of the Method is shown in the following formula:—

Affirmative Instances.	*Negative Instances.*
ABCDE	BCFG
ADEFG	DEHI
AFGHI	FGJK
AHIJK	HIDE
followed by *a*	not followed by *a*

This formula, also, is distinct from that of the Method of Difference, since the elements of the affirmative instances, when separated from A, are otherwise disintegrated and scattered throughout the negative instances in new combinations. The negative instances, it will be noticed, contain no element which has not already figured on the affirmative side, and at the same time the affirmative elements, with the exception of A, are completely exhausted by their use in negation. Given such instances as these, the conclusion is that A has in each case been the cause of *a*.

The curious thing is that not one of these formulæ can be reconciled with Mill's Canon. We are asked by it to find, on the negative side, instances in which the phenomenon under investigation, say *a*, does not occur, and which have nothing in common save the absence of some other circumstance, say A. But is this possible? Our negative instances must agree at least in the absence of an infinity of things besides A; and though we may exclude common antecedents from our artificial formulæ, it does not follow that a similar exclusion may obtain in the combinations of facts. As Dr. Venn remarks: "Any two instances whatever that we might happen to select could not fail to agree in many points of presence, and must agree in simply indefinitely numerous points of absence". Mill himself tells us that it is impossible to be assured that the instances negative of *a* agree in nothing but the absence of A. We must therefore discard his Canon with its impossible requirements, and seek to arrive at the true meaning and value of the Method in some other way.

Taking as our guide the statement that the Method consists in a double employment of the Method of Agreement, we may set aside the first formula as proceeding on the principle of the Method of Difference, and requiring no separate Canon. Were we in possession of instances similar to those embodied in the formula, we could desire no more striking examples of the cogency of the superior Method. The second and third formulæ are nearer the mark, and, with some amendment, may be brought under the Method which we are now considering. Bearing in mind what has already been said of the Method of Agreement, our positive instances may be thrown at once into the form:—

ABC . . . . ADE . . . .
followed or accompanied by *a*

We must acknowledge the presence of an indefinite number of phenomena which we have no right, at the outset of an inquiry, to dismiss as *primâ facie* irrelevant; and again,

far from being content with two instances such as are here symbolised, it is our business to assemble as many instances as possible in which A or *a* is found to occur. On the negative side we may fairly include such instances, if we can obtain them, as :—

FI . . . . KL . . . BDMN . . . . CEOP . . . .
not followed or accompanied by *a*

The important point is that in these instances we find neither A nor *a;* and the absence of *a* appears the more striking from the fact that some of the phenomena to which our attention has been called in the positive instances are found here also. At times we may be unable to separate the phenomena even to this extent. But in any case, not being sure that we have all the relevant facts before us, we must multiply our instances. If we are called upon to muster as many positive instances as we can, it is even more imperative that our survey should be as wide as possible when we profess to deal with negative instances. A few instances of agreement in the presence of phenomena are of very slight value ; a few instances of agreement in their absence are not of more value, but rather of less. We have to satisfy ourselves, if it be possible, that A never occurs without *a*, or *a* without A. We shall not succeed in doing this thoroughly unless, to use Mill's expression, we exhaust the field of negation ; and this, as he says, is more difficult than to exhaust the field of affirmation. We may find it needless to extend our search beyond a definite region of inquiry; but experience alone can tell us what this region precisely is. Within our proper universe of discourse, be it limited or unlimited, our survey cannot be too extensive.

If the Method be thus understood its Canon may be expressed as follows :—

> When an antecedent and a consequent have always been conjoined within our experience, or when phenomena have always been found to accompany each other, while we have failed to find any instance in which one has occurred save in conjunction with the other, there is a probability that they are connected by a law of causation ; and this probability increases with the number and variety of positive and negative instances.

While there is a close similarity between this and the Canon already suggested for the Method of Agreement, the peculiar strength of the Double Method lies in its enumeration of negative instances. If, for example, we can assert that a given consequent occurs whenever a given antecedent has

appeared, and that it is absent whenever that antecedent has been absent, we have reason to infer that the antecedent is a condition without which the consequent cannot occur, or at least that it is connected with it by some invariable law of causation. Here we are met by the characteristic difficulty of proving a negative. Still, the probability of an invariable causal connexion between phenomena is greatly increased, when a large and varied assemblage of instances has failed to disclose one in which either phenomenon has appeared without the other. The Double Method is most valuable when our previous knowledge permits us to limit our researches to a definite field which has been well explored. At the best, however, it is a Method of observation, not of experiment, and therefore does not attain the cogency of the Method of Difference.

Dr. Venn's interpretation still remains to be noticed. If we could obtain instances in nature exactly corresponding to the conditions of his formula ; if we could know that we had taken into account all the possible causes ; and if we were sure that there is no unnoted factor common to all the affirmative combinations and capable of uniting with A to produce the effect; then we should be certain that A is the cause for which we seek, and that there is no other cause capable of producing a. Since, however, we are not in this happy position, the formula is, as Dr. Venn admits, highly artificial ; we are never able to reach the ideal perfection of proof which it sets before us. The great objection to such ingenious combinations is that they cannot be applied in practice. The Methods which we require are not of this hypothetical character. We wish to elicit Methods which are actually employed by seekers for truth, and to estimate the value of compliance with their conditions.

Double Method of Difference.

To establish a strictly invariable connexion between a consequent and definite antecedents, the Method of Difference must be supplemented. That Method tells us that, on a certain combination of antecedents, a phenomenon will be produced, but it gives us no right to infer that it cannot be produced otherwise. The difficulty of a possible plurality of causes is probably due to the absence on our part of a sufficiently penetrating analysis, or to failure in the thoroughness of our elimination. Still, from a practical point of view, we know that we are often able to produce a desired event in various ways. If, however, after a wide investigation,

observation and experiment fail to disclose any instance of the phenomenon in question save as a result of one set of conditions, we have a probability that the phenomenon cannot be produced otherwise. Such an extension of the Method of Difference, analogous to the extension of the Method of Agreement already dealt with, may be fitly called the Double Method of Difference. It may be expressed in the following Canon :—

> When, by the Method of Difference, we have established a causal law connecting certain conditions with the production of a phenomenon, and when, further, we have failed to discover any case in which the phenomenon occurs without these conditions, there is a probability, increasing with the extent and variety of our negative instances, that the phenomenon can be produced in no other way.

By the employment of this Method, we may be able to establish a strictly uniform connexion, enabling us to pass from the appearance of a phenomenon to its cause as readily as we can prophesy that, on the concurrence of given conditions, the phenomenon will appear. The Method presupposes the simple Method of Difference and goes further ; and it must therefore be distinguished from the Double Method of Agreement, which presupposes only the simple Method of Agreement before proceeding to marshal its negative instances.

A few examples may be given. The floating matter in the air, believed to contain germs, has been connected experimentally with the organisms of putrefaction ; a sterilised infusion which remained pure as long as the floating matter was excluded from it is found to be peopled with these micro-organisms after its admission. Experiments of this kind furnish the negative and affirmative instances necessary to the Method of Difference. But the proof which is enough to validate a causal connexion between the floating matter and putrefaction does not suffice to show that these living organisms cannot be produced otherwise. A very wide trial of instances is needed to warrant the conclusion that these organisms cannot, at least in the present stage of the world's history, be produced from inorganic matter. So vast indeed is the negative side of the inquiry, that the scientific argument in favour of biogenesis has chiefly resolved itself into disproof of the alleged facts that, in certain circumstances, life has been produced without the instrumentality of prior life. That living forms can be evolved from prior forms of life we know ; the burden of proof that they can be produced

otherwise rests on those who make the assertion ; and in the absence of satisfactory evidence to that effect we are justified in concluding *omne vivum e vivo*. An apt illustration of this double method may be taken from Lotze, who points out that, after we have discovered the cause of a given effect, the proposition that it is the sole cause capable of producing that effect can only be ascertained by some method of exclusion. "A chemist," he says, "observes that a particular element C yields the reaction E ; he then finds that a strange body, which he is examining for the first time, exhibits the same reaction E ; he infers from this that the body in question is C, and this inference, so far from being based on the simple conversion of that observation, rests on the consciousness which he has of having already tested all the elements to be found on earth, and of having got this particular reaction E from none of them except from C." Here, in the first place, the chemist is in possession of a law connecting C and E—a law obtained by the Method of Difference ; but the conclusion arrived at requires a far wider experimental knowledge of negative instances than that Method necessarily implies. The argument from spectrum analysis, also referred to by Lotze in this connexion, has been chosen by Professor Fowler as an illustration of the Double Method of Agreement. It appears to me to fall rather under the Double Method of Difference. Finding that we are able, experimentally, to produce lines occupying given positions in the spectrum by the introduction of certain materials, and that we cannot produce the lines without these, we infer the presence of like conditions when exactly similar lines are produced by rays falling from the sun or from stars. It is obviously by experiment that we produce the lines in the spectrum in the first instance, and by repeated experiment that we satisfy ourselves that these lines can be produced by no other means. The extension of our conclusion from terrestrial to celestial bodies depends partly on analogy, and still more on deduction from theories of cosmic evolution. If we agree, therefore, to regard the Methods of Agreement as methods of observation in the stricter sense, it is clear that our argument proceeds, to begin with, under the Method of Difference ; but in so far as it concludes that the presence of the lines is in all cases an evidence of the same conditions, that method is transcended, and our procedure requires for its vindication the "method of exclusion" which I have called the Double Method of Difference.

Method of Residues.

Mill puts his Canon thus :—

"Subduct from any phenomenon such part as is known by previous inductions to be the effect of certain antecedents, and the residue of the phenomenon is the effect of the remaining antecedents".

In the illustrative formula, we are invited to begin with the antecedents ABC, known to be causally connected with the consequents *abc*. We are supposed to know also that A is the cause of *a*, and B of *b*. Putting these together, we infer that AB is the cause of *ab*. There remain only the antecedent C and the consequent *c*, and therefore these must be connected as cause and effect. The induction here lies wholly in the inferences which are presupposed. We start with a complex law of causation; prior induction has also made us acquainted with the effects of A and B separately; we arrive deductively at the effect of AB in combination,—a procedure, by the way, which is warranted only where causes compound their effects; and by a simple process of subtraction we learn the necessary connexion of the phenomena which remain. Apart from prior induction, the whole argument, from beginning to end, is of a kind which Mill has elsewhere characterised as deductive. If this statement of the process be correct, it is not entitled to a place among the Methods of Inductive Inquiry.

Mill's Canon, however, is at once overthrown, and the artificial simplicity of his symbols exposed, by his remark that we can never be quite certain that C is the only antecedent to which the residual phenomenon can be referred. And when we turn to actual instances of the employment of the Method given by Mill and other writers, we find that its fruitfulness consists in its instigation of the search for causes. We are not in the position of being able to explain a residual phenomenon by a cause which is already under our hand; when such a phenomenon lies before us, its explanation is still to seek. If we desire to explain complicated phenomena, our task will certainly be simplified if we can allot part of the phenomena to known causes. Our difficulty then lies with the residual phenomena, for which it is our business to find a cause or causes as best we may. In some cases, we may succeed in connecting a residual fact deductively with some law or laws already known, but which have not hitherto been applied to it; in others, an entirely new investigation may be necessary, and, if successful, the result may be either the discovery of some cause hitherto

unknown, or the detection of a known cause the presence of which, or its connexion with the effect, was previously unsuspected. So far from allotting a phenomenon to a definitely known antecedent C as its necessary condition, the imagination is busily at work in devising possible explanations; and the hypotheses thus struck out may be tested experimentally or deductively. A Canon or criterion of proof is inapplicable in the case of a Method such as this, which simply provides us with a direction, in special circumstances, for further inquiry. From this point of view, the character and value of the Method of Residues cannot be better described than in the words of Herschel: "Complicated phenomena, in which several causes concurring, opposing, or quite independent of each other, operate at once, so as to produce a compound effect, may be simplified by subducting the effect of all the known causes, as well as the nature of the case permits, either by deductive reasoning or by appeal to experience, and thus leaving, as it were, a *residual phenomenon* to be explained. It is by this process, in fact, that science, in its present advanced state, is chiefly promoted. Most of the phenomena which nature presents are very complicated, and when the effects of all known causes are estimated with exactness, and subducted, the residual facts are constantly appearing in the form of phenomena altogether new, and leading to the most important conclusions."

Method of Concomitant Variations.

The Canon of this Method is cautiously stated by Mill:—

"Whatever phenomenon varies in some particular manner whenever another phenomenon varies in some particular manner, is either a cause or an effect of that phenomenon, or is connected with it through some fact of causation".

The last alternative is so wide that this Canon may be accepted as it stands. Since, however, a cause is the sum of many conditions, the variations of sequent phenomena can never assure us that a single antecedent phenomenon is, strictly speaking, the cause; and I should be inclined, in a more exact statement, to substitute the word "condition" for "cause," slightly altering the remainder of the clause in accordance with this change. The Canon would then read:—

> Whatever phenomenon varies in any manner whenever another phenomenon varies in some particular manner, is either a condition of that phenomenon, or is conditioned by it, or is connected with it through some fact of causation.

It should be understood that the Method does not give us a rigid proof of causal connexion, and that the probability which it establishes may vary from a low to a very high degree. As Mill remarks in a later chapter, the Method is "but a modification either of the Method of Agreement or of the Method of Difference". In the former aspect, where the concomitant variations are simply observed whenever they can be found, the Method is capable of very various degrees of probability; in the latter, where experiment is resorted to, it may enable us to link together cause and effect by a law which rises to the level of practical certainty. It may be used either to disclose a causal uniformity, or to determine a quantitative law of variation where a law of causation is, on other grounds, known or suspected.

Were we concerned only with the highest conditions of proof, it might be unnecessary to signalise the whole of these methods; in such a case we might be content with the Methods of Difference and of Concomitant Variations, which Wundt has sought to bind together, in a single Canon. But it will, I think, be generally admitted that there is an advantage in setting forth, in some detail, the various stages of inductive inquiry. For the sake of brevity, I have been sparing in my illustrations of the working of the Methods; but I may here give a comparatively simple example of the manner in which they may be used in the course of the same investigation. In inquiring into the cause of anthrax, it is found in all cases in which sufficient inquiry has been made, that the disease has been accompanied by the presence, in certain parts of the organism, of the bacillus now known as the *bacillus anthracis* (Method of Agreement). So far, however, it is not proved that the bacillus is the cause of the disease; for all that appears, the morbid state of the organism may have exposed the animal suffering from the disease to the inroads of the microbe. Again, a wide and varied examination has failed to find any case of the bacillus appearing in these parts without the manifestation of the disease (Double Method of Agreement). The probability of a causal connexion between the two is thus strengthened; but though the germ theory of disease which now prevails suggests the causal agency of the bacillus, this is not conclusively shown by the Methods to which we have so far appealed. Experiment is resorted to; the microbe is isolated from the blood of an infected animal, and it is found that, under certain conditions, its injection in a healthy animal results in the disease (Method of Difference). We are now in possession of a causal uniformity, and know that,

with the ascertained conditions at our command, we can evoke the disease. Further, we find ourselves powerless to produce the disease in any other way; if it be conjectured, for example, that not the bacillus, but its products, have caused the disease, the hypothesis can be tested by experiment and set aside; other conditions to which the animal may be exposed, such as the introduction of other species of microbes, fail to give rise to this particular disorder; and we conclude therefore that the disease has its specific germ, without which it cannot exist (Double Method of Difference). Though the Method of Difference, and this Double Method, may be conveniently stated separately, the materials for the application of both have, no doubt, been accumulated to a great extent simultaneously. Still further, the bacilli, by a process of cultivation, are capable of being modified; and it is found experimentally that the attenuated virus gives rise to a modified form of anthrax. The illness is found experimentally to vary with the degree of attenuation of culture (Method of Concomitant Variations); and it is ascertained what inoculation may be adopted with only a slight and temporary loss of health, and at the same time with security to the animal against attack for some time to come, even if subjected to the injection of the strongest virus.

In conclusion, while the subject of Hypotheses may be considered separately as a matter of convenience, it should not be forgotten that they are continually employed throughout the inductive methods. It is a mistake to suppose that hypotheses are resorted to only when these methods fail. In all observations and experiments by which the mind seeks to discover truth it is guided by conjectures. There must be some reason why we observe in one direction rather than in another, or select one out of many possible experiments. The conjecture or hypothesis in either case may be vague indeed. When we try an experiment "to see what will come out of it," we may be guided only by the conjecture that some knowledge may be gained, or some interest served, by the experiment in question; but even in such a case we are urged on by an imaginative stimulus. In the more elaborate inquiries of science, the power of the scientific imagination is, in our days, abundantly recognised and honoured.

IV.—ON THE DISTINCTION BETWEEN REAL AND VERBAL PROPOSITIONS.

By E. T. Dixon.

There is one question, and it seems to me about the most important question which Logic is competent to determine, which has never, so far as my knowledge of the literature of the subject extends, been adequately discussed by professed logicians. Every one will admit that language, properly used, is capable of conveying information; that is, that some propositions do definitely assert matters of fact, either truly or falsely. On the other hand it is equally evident that some propositions have not this function, as for example the propositions commonly referred to by logicians with a certain contempt as 'identical propositions,' and definitions which only tell us something about the way it is proposed to use certain terms. It is not a little remarkable that the ordinary text-books hardly discuss the question what truths are real and how are they to be distinguished from those which are merely arbitrary—indeed they are not even agreed as to the answer, for it sometimes happens that what one logician maintains to be an assertion giving real information, another regards as an identity or definition. This is notably the case with what are called the fundamental Laws of Thought. But the discussion of this question is distinctly within the province of Logic, for it is intimately bound up with the subjects of Definition and Existential import which are discussed more or less fully in all text-books. It is also closely connected with the distinction which some logicians recognise between Formal and Material truth, which Mill dances round in a manner so peculiarly his own in his examination of Sir W. Hamilton's Philosophy (ch. xxiii.). Mill here refuses to recognise anything but real truth, and of course if he chooses not to apply the name 'truth' to such an assertion as that any two quadrics in a plane intersect in four points, he cannot be compelled to do so—but such assertions cannot on that account be excluded from the purview of Logic. The fact is that there is an important distinction between real and arbitrary truths, though neither Mill nor his opponents in argument seem to have grasped it in their discussions about formal and material truth. It was said, vaguely, that formal truth consisted only in consonance

with the laws of formal thought; it was said that 'what is non-contradictory and consequent is formally true'. But this hardly goes to the root of the matter. Are the 'laws of thought' themselves formal or material truths? If a formal truth is consequent, *i.e.*, deduced from some other proposition, does it matter whether that proposition is itself formal or material, true or false?

But it would be useless to refute at length views which perhaps no one now entertains. It will be better for me to state as concisely as possible the views I support, and even if it should turn out that they are already embodied in some text-book that I have not come across, no harm will have been done. But if they should not find acceptance, I hope some older logician will take the opportunity of expounding the orthodox views, and explaining why the ordinary sources of information are so singularly silent on the subject.

I believe that, whatever it may be in theory, it is practically impossible to conceive a thing without any attributes, or an attribute except as pertaining to some thing. Whenever any concept is clearly before the mind, it always has both denotation[1] and connotation. But we may confine our attention to the one, and treat the other as an immaterial accessory. Thus we might make an argument about colours, picturing to ourselves the colours as painted on boards, and yet recognise that the boards, and even the paint, were immaterial to the argument, so that the conclusions applied equally to any other similarly coloured objects. This fact has been noticed and objectified into a Principle (with a capital P) of Equivalent Forms; but there is nothing to be gained by obscuring a simple fact under such a high-sounding title—the fact simply being that the argument was concerned with connotations only, and might have been conducted verbally without assigning any denotation whatever to the words, and that therefore the conclusion is equally applicable to any denotation which the words may bear.

The process of separating an argument about connotation from irrelevant denotation may perhaps be carried out in more ways than one. The most obvious way seems to be as follows. Names which are well understood must be regarded not merely as marks of real or imaginary things, nor merely as marks of attributes, but as connecting links between certain things and certain attributes; so that to under-

[1] To avoid circumlocution I shall always speak of 'things' as denotation (whether objective or subjective) and attributes as connotation. Thus I should say that 'whiteness' connotes the same attribute as 'white things,' not that it denotes what 'white things' connotes.

stand any term well is to possess real information. Thus every term, by the time it is well understood, possesses both connotation and denotation. It is also clear that its meaning is to some extent arbitrary, and may be settled by its definition, but that the definition once laid down there remains another part of the meaning, the discovery of which is a gain of real knowledge. We may lay it down arbitrarily that a given term shall denote any given set of things, or connote any given set of attributes, but having done so it is no longer in our power to determine what attributes it shall connote, in the first case, or what things it shall denote in the second. The arbitrary part of the meaning of a term I shall call its *definition*, and the remaining part of its whole meaning its *import*. Thus by its definition I mean either the extension of the term or its intension, whichever is laid down arbitrarily, including not only those items of denotation or connotation explicitly mentioned in the assertion which determines the meaning of the term (which may be called the 'stated definition'), but every item which may be formally shown to be implied by that assertion.

It follows from this that any item which can be formally deduced from the stated definition of a term is just as arbitrary as the stated definition itself was, and if we have any assertion whose truth can be deduced from the stated definitions of its terms, it is not a real assertion, and conveys none but verbal information; and conversely, if we wish to ascertain whether a given proposition 'A is B' is real or only verbal we must examine the stated definitions of 'A' and 'B' and see whether they are formally dependent upon one another or not. If they are independent the proposition is a real one, whether true or false: but even if they are not, the proposition may still be useful, as the expression of a verbal connexion which was not at once obvious from the stated definitions of the terms. Further, as the connexion between denotation and connotation cannot be arbitrary, for we cannot arbitrarily decide whether certain things shall, or shall not, have certain attributes, we can never deduce any facts of denotation from definitions by connotation, or *vice versâ*, nor can any conclusion be deduced from two definitions, one of which is by denotation, and the other by connotation, without the aid of some real proposition to connect the two. Consequently the only use of formal reasoning may be said to be to elucidate the full effect of the stated definitions of terms; and to argue formally with terms which are 'well understood,' that is, whose definitions and imports are well known, is waste of time. For if the truth of any

assertion about such terms is not at once obvious, no process of formal argument can possibly establish it.

If a proposition is advanced and disputed, it may be that the disputants are agreed as to the definitions of its terms, and are really disputing a matter of fact. If so the dispute must be settled by other methods than those of formal logic. But as a rule no formal definitions will have been laid down, and it is then open to either disputant to call on the other to define his terms. If one of them does so a formal argument may follow as to whether the definitions are or are not independent, *i.e.*, whether the proposition was or was not a real one. It may even be shown to contain a contradiction in terms. If neither of the disputants advance definitions, they may indeed seek to show that the proposition depends on some other proposition or propositions, but ultimately the difference of opinion must turn out to rest either on the truth or falsity of some real proposition, or on a difference as to the meaning of certain terms, neither of which differences can be determined unless formal definitions are given.

Now the same term may often be defined in different ways, so that the same proposition may in the mouth of one speaker be real, and in that of another 'a truism' or verbal assertion. But if any one wishes to maintain that a given proposition is a real one, the *onus probandi* lies with him—he has only got to state the definitions of his terms and show that they are independent and the thing is done. If he cannot do this the proposition itself may be taken as partially defining one or more of its terms, for if it is accepted no meaning can afterwards be assumed for any doubtful term it contained, in virtue of that acceptance, which cannot be formally shown to be implied by it. For example, it has been maintained that Euclid's Axiom 'Two straight lines cannot enclose a space' is only a partial definition of 'straight line'. This would be correct if Euclid had not previously given a definition, but as this definition implies that a line is a real object having length without breadth it cannot be arbitrarily asserted that there is a kind of line such that two of them cannot enclose a space. Again, if it is to be maintained that Newton's laws of motion are real propositions, independent definitions must be found for the terms 'force,' 'uniform motion,' and so on, for until such definitions have been given all the 'laws' do is to tell us something about the way Newton uses those terms. It is not of course to be inferred that the conclusions of Astronomy, in which calculations based on these laws are made use of, convey no real information, but the reality is given to these

conclusions quite apart from the laws of motion, by such laws as that of gravitation which is real, and not a truism.

This way of looking at reasoning is so simple, and probably so nearly the way most practical men look at it, that it may seem unnecessary to dilate upon it. But as a matter of fact it is very different from the methods expounded in the ordinary text-books of logic. Dr. Venn, for example, in his *Empirical Logic* commences by stating a number of 'Postulates' on which he bases his system. The third of these is to the effect that words used in reasoning are to be taken to have the same meaning for all disputants. If this means that all words are to be taken to be 'well understood,' or at least equally well understood to all the disputants both before and after the argument, we have already seen that it would render formal reasoning entirely superfluous. In another place he says: 'By admitting that the demand for a definition is a sort of *right* instead of a merely occasional concession to our mental indolence or frailty, logicians inevitably provoke a continued repetition of such a demand, and then the question arises: Where are we to stop? . . . The true answer is: You have no right to a Definition at all: the mere fact that you ask for one is in itself an admission of the general truth of our postulate about language. . . .'[1] Rather, I should say, it is the refusal of the definition which is based on the postulate; the demand directly implies its falsity, in the given instance at least. Dr. Venn does indeed admit that it is sometimes false; where I differ from him is in holding that if it were otherwise, formal logic would have no *raison d'être* at all. The answer I should give to his question: Where are we to stop? is: Whenever we come down to terms about whose meaning we are sufficiently agreed, *i.e.*, which may be considered 'well understood' for the purpose in hand. Of course his postulate is so far true that if there were no such terms argument would be endless; but if there were no others it would be useless. Again, Dr. Venn believes that purely verbal arguments are extremely rare. Even if he meant arguments entirely unconnected with real applications, the whole of pure mathematics and symbolic logic may be regarded as purely verbal arguments, and so also might probably the greater part of the arguments of past and present logicians and metaphysicians. Possibly, nay probably, if I had the opportunity of discussing my differences of opinion with Dr. Venn, the argument would in the end turn out to be purely verbal. Mr. Johnson has maintained that there is an essential difference

[1] *Empirical Logic*, p. 280.

between the subject and predicate of a proposition, in that something can always be predicated of a subject, whereas there may be predications which cannot be made of any subject.[1] He says 'a subject is that of which something must be predicable'. This, surely, cannot be anything but a verbal assertion. I accept it as a partial definition of 'subject'. Naturally I should have expected after this that a 'predication' was that which had been predicated of a subject? But on further examination it appears that the difference between subject and predicate in Mr. Johnson's view is far deeper than appears by saying there are predicates without subjects though there are no subjects without predicates. For to him a subject is a noun, a predicate only an adjective or equivalent phrase. On this interpretation the syllogism could not be illustrated by Euler's diagrams! It is evident therefore that if I had entered into an argument with Mr. Johnson about the reciprocal position, or otherwise, of subject and predicate, it would have turned out to be a purely verbal one, and Mr. Johnson could at any time have put a stop to it by stating his definitions of 'subject' and 'predicate'.

If an assertion is accepted by both parties to a discussion it may be unnecessary to define the terms, that is it may be assumed (to save time) that in this case Dr. Venn's postulate holds, though the deductions subsequently drawn from the assertion may show that after all the assumption was rash. But if ever an assertion is disputed the first step should always be to demand or give definitions, or at least ascertain whether the assertion is intended as a truism or not. For the process of giving or discussing the definitions will do all that formal logic can do to clear up the matter in dispute. Consider for example the assertion, 'Thought is impossible without language'. In the senses in which the words thought and language are commonly used this assertion is not only not a truism but it is not true. I might define 'thought' as 'a train of concepts passing through the mind which are noted and directed by consciousness'. The ordinary meaning of language might be stated to be 'any code of signs by which the sequence and relation of concepts in the mind are communicated from one individual to another'. This definition is sufficiently wide, as it may include a canine language, or a language of ants. But it would be absurd to suppose that if a being had never tried to communicate with his fellows that he could never have noted or

[1] Mind, O.S., No. 1.

directed the train of concepts passing through his mind! But by a slight change of definition it is easy to make the original proposition not only true but a truism. If we include in language 'any code of signs, whether objective or subjective, by which the sequence and relation of concepts in the mind are noted and directed,' it follows that there can be no thought without such. But it may be doubted whether in this case the proposition would justify the conclusions which philologists seek to draw from it.

But there is a yet more important consequence which results from the view of the arbitrary nature of formal logic I am advocating. It is that the old classifications of propositions and sciences must be modified. The old division of propositions was into analytic and synthetic of knowledge into *a priori* and *a posteriori*. But we have seen that the primary distinction, from my logical point of view, at any rate, between propositions is that between real, and arbitrary or verbal propositions; and sciences must therefore be classified according as their conclusions belong to the one category or to the other. A truism being purely arbitrary cannot be called a 'judgment' at all, either analytic or synthetic. 'Judgment' might indeed be defined as the act of assenting to real assertions, or of admitting the connexion between certain connotations and denotations, and a science based on definitions alone calls for no act of judgment at all. Pure mathematics and symbolic logic are such sciences (when properly expounded); and hence the 'certainty' of their conclusions. Formal reasoning may assist us in forming a judgment by putting before us clearly all that is implied in the denotation and connotation we seek to connect, but it can never supply the connecting link. This fact of fundamental importance is frequently overlooked, even in the nineteenth century, and is still more frequently confused with that other fact of scarcely less importance, which is associated with the name of Bacon, namely, that we cannot discover anything about the objective world by a mere examination of our own subjective consciousness, and *a priori* reasoning. The knowledge we obtain by such introspection is very different from 'mathematical certainty'; it is very real knowledge; the so-called *a priori* judgments are many of them true judgments; but they are separated by as impassable a gulf from truisms, as objective facts are from them. For such subjective judgments are formed by direct apprehension and comparison of real concepts actually present to the mind. As long as care is taken to express them in language which shall not appear to give them an objective

character they may be asserted with absolute confidence, and yet are in no sense arbitrary. Though we cannot say with certainty that material space is 'Euclidian,' yet we can say absolutely that the space we are accustomed to conceive is such, and is not, for example, a Lobatchewskian space, or a space of four dimensions. Lobatchewsky and Riemann have not shown that when I picture to myself the figure of Euclid's I. 29, that picture may be different from what I suppose it to be, but only that if I try to realise my picture on the blackboard it may be that I shall not be able to do so. It is as absurd to think that it is possible to discover the nature of concepts by formal reasoning alone, as to think with Descartes that by forming concepts alone we can discover the nature of the objective universe.

It is unnecessary, and would be foreign to the purpose of this article, to emphasise the distinction between objective and subjective knowledge, between the more or less satisfactory hypotheses on the one hand, and the inadequate and inconclusive, but indisputable, knowledge on the other. This has been amply discussed by logicians elsewhere, but the points I wish to bring out, the essential distinction between both these kinds of knowledge, and purely formal conclusions such as those of mathematics, and the simple way in which any proposition may be relegated to the one category or the other, are, I think, deserving of more attention than they commonly receive at the hands of logicians.

V.—ASSIMILATION AND ASSOCIATION. (I.)

By Dr. James Ward.

There is a perplexing want of uniformity among psychologists of the present day in the use of these terms, Assimilation and Association, or other terms equivalent to them. According to some assimilation or recognition is but a special form of association; according to others every instance of association presupposes and involves assimilation, which, therefore, they hold to be the simpler and more elementary process. This difference is due partly to a difference in the analysis and interpretation of the facts denoted by the word assimilation, but partly to a difference of terminology. The aim of this paper is to inquire into the causes of this obscurity, and if possible to do something towards removing them.

Nothing can be plainer than that association in strict propriety of language implies two or more distinguishable and distinct individuals; and is in this respect different from amalgamation or fusion, which both imply the merging of two or more bodies into a new complex or compound. Now if the nature of presentation were such as to allow of anything like a literal application of either or both these conceptions when we attempt to explain the various connexions and changes we find among our presentations, confusion need never arise. In political affairs, for example, we are never at a loss to distinguish an association or confederation from an amalgamation or union. The individuating marks are here definite, and, so to say, palpable. Not so with presentations: in this case there is much indefiniteness in the terms used, much that eludes us in the facts themselves.

First of all what constitutes identity in the case of presentations, or is there such a thing? Let it not be supposed that I wish to indulge in the easy feat of evolving subtleties out of the notion of identity. But it will be allowed, I presume, that whenever the word 'same' is used there must be some convention, tacit or otherwise, as to the sense in which it is to be understood. In these "association-controversies" I can find no such agreement. Sometimes a merely qualitative identity is implied, sometimes numerical identity, sometimes both, and sometimes neither. If a presentation is regarded as a single event, be it long or short, it can have

no identity of its own at all. Position in time will no more yield identity than position in space will yield direction. No two positions in time are the same and no position can recur. In so far therefore as assimilation and association imply different times, the presentational events of one time must be numerically distinct from those of the other. I have seen a certain face some score of times: call these events $p_1 p_2 p_3 \ldots$ After a few times I am aware of recognising the face and presently say it is familiar. By many psychologists this immediate recognition—perhaps it would be exacter to say immediate cognition—of an object is symbolised as $A + (a_1 + a_2 + a_3 \ldots)$ and familiarity explained as a function of the length of the series. This may be right or wrong: the only point to note at present is that $p_1 p_2 p_3 \ldots$ and $a_1 a_2 a_3 \ldots$ are terms belonging to wholly different categories. The event p_1 may quite well have been the cause of an effect a_1 that persists for a longer or shorter time, as the scar from momentary contact with a brand might do. But p_1 as an event is done with: a_1, on the other hand, while it lasts may undergo such changes and be brought into such relations as its nature will allow. Among the changes may perhaps be reckoned that from impression to image, symbolised by reducing A to a: among the relations may perhaps be reckoned that of association with a contiguous b or with a qualitatively identical a_2 or a_3. While in consciousness a_1 may be called a memory-image and when out of it a "disposition": all this is matter for further inquiry. The one thing settled is that $a_1 a_2 a_3 \ldots$ are individuals that had their several beginnings on the occasions $p_1 p_2 p_3 \ldots$.

One criticism is possible forthwith. On this view of a presentation, assimilation and association by contiguity cannot be brought under the same formula. The bar to this is not in the several presentations themselves: for $a_1 a_2 a_3$ are distinct and different as truly as $b\ c\ d$. So far the two formulæ, $A + (a_1 + a_2 + a_3 \ldots)$ and $A + (b + c + d \ldots)$, might be held fundamentally alike. Any presentations whatever, so far as their qualitative characteristics are concerned, may become associated by contiguity, provided only they "occur together or in close succession". This might happen to the individual presentations $a_1 a_2 a_3$ as well as to the individuals $b\ c\ d$. But then they would be associated because they were contiguous; not because they were similar. And the point is that they are supposed not to be contiguous: in short, contiguity, which is the essence of the one form of association, is precisely the one thing wanting in assimilation. To this a reply is sometimes made in this

wise: "No, contiguity is not wanting. It is certainly present in all cases of mediate recognition, *i.e.*, where direct analysis is possible. In these cases, the indices 1, 2, 3 correspond to definite attendant circumstances that make us as clearly aware of the members $a_1\, a_2\, a_3$ in recognition as we are of the members $b\ c\ d$ in contiguous association. Often too, when such attendant circumstances do not obtrude themselves, we can by more or less persistent concentration bring them into clear consciousness. Unless then we are to relinquish all belief in continuity, we must assume the presence of some such circumstances in sub-consciousness even in the case of immediate cognition; though we have then no means of discerning them."[1] The gravest objection to this reply is not that it has recourse to sub-consciousness in order to identify immediate cognition with mediate recognition: the fatal oversight is that though contiguity is concerned in mediate recognition it is *not* found where it is wanted. Contiguity does not link a_1 with a_2 and a_2 with a_3; but a_1 resolves into $a+b+c$; a_2 into $a+l+m$; a_3 into $a+p+q$; and so forth. Thus suppose I see a particular face (1) at some amateur theatricals, (2) at a boat race, (3) in the street. Contiguity will explain the revival of these several settings; but it does not help me one jot to understand how I get across from one to another on the assumption that the a's, though qualitatively identical, are numerically distinct. To suppose that contiguity will carry us from one to the other is a blunder akin to expecting to pass from a "high level" line of rails to a "low level" without changing carriages, because at A there is a station for both. If, by some means or other, a_3 reinstates a_2 or a_1, then contiguity may do the rest. But these means are still to seek. Meanwhile we have no right to use the same sign + to symbolise two processes as different as shunting and changing carriages. Provisionally then we may perhaps be allowed to represent these differences thus:—

$$\begin{matrix} a_1 \\ a_2 \\ a_3 \end{matrix} = \begin{matrix} a+b+c \\ a+l+n \\ a+p+q \end{matrix}$$

At this point, Prof. Bain, who has always insisted on the disparity of the two processes, may fitly interpose: "Undoubtedly any appropriateness in the term Association is confined to the law of Contiguity, under which the companionship of the related ideas is at its maximum of fulness; seeing that the occasion of their coming together by a pro-

[1] *Cf.* Wundt, "Bemerkungen zur Associationslehre," *Phil. Studien*, vii. p. 352.

cess of resuscitation is their being more or less frequently together previously. In Similarity, the resuscitation is not preceded by any previous companionship : the two members that have come together, as a consequence of their resemblance, may have been at the greatest distance from each other in our former experience. Hence, for Similarity, the word Attraction would be the most apposite, while unsuited to Contiguity." [1]

It is quite clear that things that can attract each other, whether literally or metaphorically, cannot be events. At the same time, since Prof. Bain talks of *present* impressions reviving their like among *previous* impressions, it is also clear that he regards presentations as individuated by an event, that event, *viz.*, which we may call the psychophysical event *p*. We have, that is to say, still the same conception of a presentation. To understand the working of "the attraction of similarity," we must note that, on Prof. Bain's view, it is opposed by " the repulsion of diversity," wherever this is present. The presence or absence of diversity thus differentiates into two classes the facts that Prof. Bain brings together under the one heading of Association by Similarity. But his whole exposition is a refutation of his classification. To justify the use of association it is essential, as we have said, to begin and end with two individuals. Where repulsion is at work, in the cases described by Prof. Bain as cases of " similarity in diversity," this distinctness is conceivable and is in fact always found. But in " the case of perfect identity between a present and a past impression, the past," says Prof. Bain, " is recovered and fused with the present, instantaneously and surely . . .".[2] Thus, according to this doctrine, qualitatively identical presentations may end by becoming numerically identical, and we ought then to be beyond the range of association altogether.

But it now becomes pertinent to ask whether in this process of unopposed attraction we are justified in assuming that there are two presentations even at the beginning of the process. First of all, what precisely is this " past impression " that fuses instantaneously and surely with the " present " ? Does it owe its individuality to an event, as the present is supposed to do? Let Prof. Bain speak for himself. " We have always taken for granted," he says, " that the recurrence of any object to the view recalled the total impression made by all the previous occurrences and

[1] On ' Association '-Controversies, MIND, xii. p. 162.

[2] *Senses and Intellect*, 2nd edn., p. 466.

added its own effect to that total." [1] "When I look at the full moon, I am instantly impressed with the state arising from all my former impressions of her disc added together." There are pretty plain indications here of an entirely new conception of presentation, that, *viz.*, of a "total impression" or "state" arising from, or due to the effects of, all the previous occurrences of the object. A series of qualitatively identical *p*'s have gradually produced this one "state" or "total". Obviously therefore it does not owe its individuality to a temporal mark. But if the several previous occurrences have not resulted in several presentations, in what sense can we regard the present "recurrence" as yielding a new presentation? If this recurrence is but a "reinstatement and deepening" of an absolutely identical impression "already made," how can it be a presentation numerically distinct from that total? "But why cannot a new impression deepen an old impression?" it may be replied. It may, no doubt, when by "new impression" is meant a new application of the seal impressing, and by "old impression" is meant the impress effected by former applications. In the first sense impression is tantamount to occurrence; as in the words just quoted in which Prof. Bain speaks of all his former impressions of the moon's disc. Impression in the second sense is meant when he says: "I am instantly impressed with the state arising from" those previous occurrences of the moon's disc.

Though we have got but a little way in our investigation, it may be advisable to summarise, as the inquiry is intricate. We have found two different conceptions as to what constitutes the identity of a presentation. Both distinguish between presentations and the momentary psychological occurrences or excitations on which their presence in consciousness in the primary or perceptual state depends. But according to the first or *atomistic* view each such event calls a new presentation into being, as each impress of a seal, *e.g.*, might leave a fresh print on a revolving tablet. On this view there might be an indefinite number of presentations qualitatively alike but numerically distinct. According to the second view, on the other hand, repetition does not mean the birth of a new presentation but further growth or some analogous change in the old. We might call this, perhaps, the *functional* view: the possibility of a plurality of identical presentations seems here excluded. We have seen further that on the atomistic view recognition or assimilation cannot

[1] *Op. cit.*, p. 464.

be explained as association by contiguity; and that Prof. Bain, who sets out from this view to explain recognition as due to an attraction of similars, ends by showing that it is not a case of association at all; and in fact is led, spite of himself, to broach the functional conception of presentation.

Before proceeding to discuss this functional view more fully it will be well to examine how far the atomistic assumption of a plurality of qualitatively identical presentations is justifiable in itself. In our everyday experience of the external world numerical distinctness is given either by spatial or by temporal marks. Thus I range on a plate a number of digestive biscuits out of the same tin. Here I have $a_1\, a_2 \ldots a_n$, the subscript numbers denoting merely different positions. I eat one of these biscuits every day at lunch and again have $a_1\, a_2 \ldots a_n$: the numbers here denoting repetitions of qualitatively identical events, *i.e.*, merely temporal distinctness. Now what the atomistic psychologists do is simply to equate the psychical to the physical. Here as in many other cases they seem to apply the formula: The presentation of x is an x presentation: thus, the presentation of difference is a difference of presentations; the presentation of succession is a succession of presentations. These are, I believe, fair instances. In the present case we should have: The presentation of n identicals is n identical presentations. Now, even if this were a true account of the facts in the case of a percipient who is cognisant of spatial or temporal distinctions, it by no means follows that it is true before such grounds of distinction are possible. If we assume that the knowledge of space and time presupposes these very processes of assimilation and association, it is plain we cannot look to space and time for the differentiating marks, which, on the atomistic theory, these processes involve. The genesis of a mind capable of apprehending a plurality of identicals may require rows of biscuits and repeated meals of them, and more of the like. The description of this genesis may require in the psychologist explicit knowledge of objects and events as qualitatively identical and yet numerically distinguished by differences of spatial or temporal position. But it is plain the subject in course of development cannot require at the outset what it is to acquire at the end.[1] But even where mature spatial

[1] To suppose that it can is an eighteenth century blunder, from which psychology has only partially cleared itself. It is on par with the doctrine that spoken language was invented by a convention of rational grimacers. The chief difficulties in the way have probably been the two referred to in the text: (1) the conception of knowledge as a copy, *i.e.*,

and temporal intuitions are possible, it is, of course, not true to say that the presentation of n identicals is the same as n identical presentations. A number of forms or colours are only known to be qualitatively identical by matching them all to *one* standard. To match them severally to as many distinct standards would leave us just where we were. The presentation of qualitative identity with numerical distinctness, in other words, requires a one in the many. Any attempt at symbolic representation must emphasise, not suppress, this fact. The formula should not be $a_1 + a_2 + \ldots a_n$, but rather a (1, 2, 3 . . . n).

To sum up: The terms of a series such as $a_1 + a_2 + a_3$ may represent the physical events of stimulation; or they may be the psychologist's own private memoranda. But it is difficult to assign to them any meaning for the cognising subject before spatial or temporal plurality or overt comparison is possible. And since explicit identification involves of necessity a one in many it seems reasonable to suppose that a vague psychological unity or continuity is differentiated or specialised before logical generalisation is possible. The *primum cognitum* would then be not a plurality converging towards explicit unity but implicit unity diverging into definite plurality. So we come naturally to the examination of the functional view of presentations and of the process of assimilation or recognition.

The characteristic peculiarity of this process of assimilation or immediate cognition is that there are not two presentations A and a directly given as part of the fact to be explained. Two presentations have simply been assumed [1] in order to bring assimilation within the range of the more comprehensible processes called association. Apart from all hypothesis or inference we have first a new or strange experience A; then after more or fewer repetitions, we say this experience is "cognised" or is *familiar*. If A be an act or movement, we say at first it was hard or difficult, but after repetition it is performed with *facility*. Familiarity and facility may be regarded as qualities that perceptions or actions may gradually acquire, qualities that by degrees replace the strangeness

the confusion of the psychical with the physical, and (2) the confusion of "the standpoint from which the origin of a conception is *expounded* with the standpoint at which the conception is *acquired*". In these words I happened some time ago (*Jl. of Speculative Philosophy*, 1882) to describe what is now sometimes, but not very happily, called "the psychologist's fallacy". It is by no means exclusively a psychological mistake.

[1] The reader will observe that in the passage quoted above Prof. Bain begins: "We have always taken for granted," &c.

or difficulty that accompanied those experiences at the first. We may indicate this acquired quality by γ, so that A in becoming cognised or assimilated becomes A^{γ}. But at the outset it must remain an open question how far γ is a mark of something that A has gained, how far of something that A has lost. It might be either or both. Thus loss of interest, loss of impressiveness, is an aspect of familiarity: the diminution of effort an aspect of facility. The problem, in short, is to ascertain, if we can, the nature of this γ as an attribute or characteristic of a given presentation. With this proviso all possibilities are open. The problem may be wrongly stated, but if so, the functional view is fundamentally false. Let us pass to the facts that seem to suggest or support it.

One obvious consideration is that the most various presentations may become familiar; also that the mark of familiarity seems the same whatever be the presentation to which it may pertain. May we then suppose that the nature of γ is to be found rather in the subjective than in the objective constituents of consciousness? It is at all events certain that familiarity and facility are closely related to feeling. Unfortunately these relations—at first sight at any rate—appear discouragingly complex. Though the familiar is often pleasurable yet we have plenty of familiar pains. Again, beyond certain limits the familiar becomes uninteresting, unless positively painful: also the easy becomes the mechanical. On the other hand, the unfamiliar and the difficult have their attractions, though again only within certain limits: we are hostile towards the utterly strange and averse to difficulty pure and simple. The complexity thus indicated is due, I suspect, to the combination of two or three simple laws. But waiving this inquiry meanwhile, let us see whether the consideration of subjective activity may not further elucidate the nature of γ and possibly clear up its connexion with feeling. In fact we may be pretty sure *a priori* that it is here if anywhere that the functional view will find its justification.

It is in terms of subjective function—so to say—that we ordinarily express the broad facts of habit and practice. Use we say is second nature and practice makes perfect: the effect of custom is thus conceived as a change on the subjective side, not as an association of a plurality of identical presentations. Indeed in the case of dexterities acquired by practice, it is obvious that there is no such series of identicals at all. From the first rude beginning—say the schoolboy's pothooks or the schoolgirl's curtesies—up to the finished performance of

the adept there is continuous approximation, awkward and bungling attempts passing gradually into the bold strokes and graceful sweep of mastery. Looking simply at the movements themselves we are impressed, not by the sameness, but by the difference, between the final adroitness and the initial clumsiness: there was little of what characterises the former to begin with and there may remain no trace of the latter in the end. Or if we take note of the effect produced on muscles and limbs by exercise we find that these also gradually change and that such changes may be indefinitely great. Whenever the blacksmith "swings his heavy sledge" there may be physically the same amount of work done. But for the smith himself the same work, now that "his arms are strong as iron bands," does not entail the same effort, is not a repetition of the same experience, as at first.[1] Facility and faculty (or function) are much the same both etymologically and actually. If the facility, efficiency or function is the psychical concomitant—whether directly or indirectly—of structural growth and development, and if the perfected structure has actually superseded the rudimentary, may we not assume the like of the perfected function? As little as the new structure is a combination of the old so little is the new function an association of the old. The less fit may be fossilised and preserved elsewhere but not embodied in the fittest that finally survives.

If we look next at cases of instinctive or innate skill these seem to point to the same conclusion. The young ring-plover, for instance, can run as soon as it emerges from the shell, that is, without practice and without repetitions. Yet it smees reasonable to assume that the newly-hatched plover has at the outset much the same sense of use and ease that a kitten only has when after many trials it has attained a like facility. Of all but the fundamental endowments of mind, whatever these may be, it is probably true that innate

[1] Any one with a turn for psychology *might* analyse the several steps of his progress in learning some feat of skill and observe the gradual elimination of the awkward and irrelevant and the gradual advance of the graceful and fitting. But these observations would not constitute the skill; and in fact they would probably hinder it. The whole situation would be comparable to that of a botanist from time to time interfering with a growing plant to see how its flowers or fruit developed. As the botanist may draw or in other ways record the several phases of such development so may the psychologist note in himself the rise and progress of some new aptitude he is in course of acquiring. Such records may quite naturally form an associated series, and this series might even be itself associated with the stage finally attained. The great thing is to take care we do not confound the two.

faculty is, in general, due to facility previously acquired by practice and transmitted by heredity. Heredity is a fact which psychology cannot explain; but it is also one which may itself affect our psychological explanations. It seems to force us to admit that by whatever means a given structure is called into existence, the psychological concomitants of that structure will be there too; and cannot be there otherwise. Were the newly-hatched plover to be put on the water, its first experience would be strange; but the newly-hatched duck so treated would begin by feeling at home. Might not the case be essentially the same if for plover and duck we substitute, say a dog who has not, and a dog who has, thoroughly learnt to swim? More generally: If in the case of instinctive ability the characteristic of facility—γ as we have called it—is not an associative series, may we not assume that even when such a series is a possible accompaniment of facility, *viz.*, when the facility is acquired by a subject sufficiently advanced, the series is still no part of the essence of γ?

It will perhaps be urged that the special case of familiarity concerned in cognition is different from the special case of facility concerned in movement. In acquired dexterity there *is* a series of approximations towards perfection, but in acquired perception the object perceived is identically the same from first to last. Though neither my juvenile pothooks, nor therefore the movements that produced them, form a series of identicals, yet all my former impressions of the moon's disc can do so. Perhaps such a plea for separating facility from familiarity has never been explicitly made; but it seems fairly implied in the diverse treatment of the two by many psychologists. But if we attend—as it is plain we ought—not to the physical thing but to the individual's percept, then surely this too is an acquisition, entails activity and progress, gradually approximates towards completeness like other acquisitions. It too has its physical concomitant in differentiation of structure, and just as there are innate dexterities so there seem to be innate percepts. The young rabbit begins by being indifferent to mice and interested in carrots, the young cat by being indifferent to carrots and interested in mice, while both are alarmed at the sight of a dog. Many striking instances in point are to be found in the classic paper by the late Douglas Spalding or in the pages of Dr. Romanes.

Possibly something should here be said of that "mental chemistry" or "inseparable association" which Brown seems to have been the first to broach, and which J. S.

Mill took so seriously.[1] It might be regarded as securing for the atomistic conception of presentations the continuity that is characteristic of the functional conception. And when Dr. Bain talks of the past being recovered and "fused instantaneously and surely with the present," he has some sort of mental chemistry in mind. But whatever superficial resemblance there may be between the relation of a chemical compound or alloy to the elements composing it, and the relation of a complex presentation to its constituents, such an analogy is faulty in every essential point. A chemical association that cannot be dissociated is, I fancy, a contradiction in terms. But dissociability is the one distinguishing peculiarity of "mental chemistry". So it is, in like manner, of organic development, between which and mental development there is, on the other hand, more than analogy. Here, in certain respects, at any rate, there is minute and exact correspondence. Development implies change of form in a continuous whole: every growth *into* means an equal growth *out of;* thus one cannot find the caterpillar in the butterfly.

But, under whatever form, the argument from continuity, or, in other words, resource to the convenient hypothesis of sub-consciousness, is here out of place. Those who maintain that mediate recognition by true, *i.e.*, separable associates, presupposes immediate cognition or assimilation may be wrong; but at least they cannot be refuted in this summary fashion. One might as well try to prove that black is really white because both are continuous through grey. It may be possible to arrange a series of instances of recognition determined by accessory or collateral presentations (*Nebenvorstellungen*), in which the latter become less and less distinguishable from, and more and more simultaneous with, the chief presentation (*Hauptvorstellung*), as the number of repetitions increases. But such *eventual* fusion, inseparable association, sub-conscious recognition, or whatever it be called, would not be identical with the assimilation or simple cognition supposed to be indispensable to the conscious and separable association from which the series set out. The two processes might cease to be directly distinguishable, and a certain presumption might arise that the second had lapsed into the first. But against the supposition that the first was really one with the second there would remain the fatal objection already urged.[2]

[1] *Cf.* his edition of James Mill's *Analysis*, preface, p. viii.

[2] See above, page 349.

No doubt there must be some likeness between the two, since both are cases of familiarity and depend on repetition; but in the one we have A gradually becoming A^{γ}, in the other it is contended that we have rather $a^{\gamma} + b^{\gamma} + c^{\gamma}$ originating some new form, let us say a^{ϵ}. The same fundamental laws of retentiveness and practice, the same functional conception of presentation, will apply to both. The difference on this view is that the process of assimilation precedes and prepares for the existence of memory-images or "free ideas," as they have been happily called,[1] whereas all processes of mediate recognition, involving not only retentiveness, but reproduction—to use the old terms—cannot begin till memory-images are possible. Of course all this is open to question, but then it should be questioned. Meanwhile the attempt to outflank it by stretching the conception of association till it becomes self-contradictory and postulating memory-images in sub-consciousness that have never been remembered is obviously futile.

It will bring us nearer to a satisfactory issue to inquire how association is supposed to be related to retentiveness and other primary processes. Even on a point so fundamental as this, the greatest obscurity prevails owing again to the vagueness with which the leading terms, presentation and association, are used. Dr. Bain, for example, identifies retentiveness and association by contiguity. In the article already quoted he writes: "The law of Contiguity, if defined as a power of associating into one mental group *two* or more discrete members, is not wide enough. The intellectual property that it expresses is equally operative in the formation and the persistence of the ideas themselves. In all probability the simplest idea is already a complication; and its parts are bound into a mental unity or whole by the force underlying contiguous adhesion. . . . The process of converting the Sensation, or primary Impression, into the Idea, supposes the very same psychical force as that expressed by the law of Contiguity."[2] It is difficult to make this statement clear. The last sentence, of course, is true enough; that is to say, retentiveness is required in order that ideas may be associated, just as it is required before impressions can persist and leave "traces" or ideas behind them. But what sort of conception are we to form of a presentation that always consists of simpler presentations associated by contiguity? Surely this is atomism with a vengeance!

[1] Höffding, *Outlines*, Eng. trans., p. 126.

[2] On 'Association'-Controversies, p. 163.

And if *two* or more discrete members are not essential to association (as distinct from retentiveness) what becomes of Dr. Bain's formula, according to which presentations "occurring together . . . tend to grow together . . . in such a way that, when any one of them is afterwards presented to the mind, the others are apt to be brought up in idea"?[1] Few psychologists, I fancy, will admit that it was "simply expository convenience" that led them to treat of the formation of the idea before entering upon the associating principles.[2] On the other hand, I fear it must be admitted that still fewer psychologists have been at much pains to ascertain how association is related to the formation of the idea, *i.e.*, to assimilation. Perhaps the most instructive handling of this subject is that of Höffding, including the subsequent discussion of his article by Lehmann, Wundt and others.[3] It is one of Höffding's merits that he has detached the problem from the old question-begging terminology by using a new term, *Bekanntheitsqualität*—which might perhaps be rendered into English as Cognisancy—to denote what is characteristic of the immediate recognition of A as distinct from its mere presentation. This difference he attributes to repetition and exercise. It is what we have above symbolised as A^{γ}. But Höffding himself symbolises it as "$(A + a)$ or better perhaps $\binom{a}{A}$". He speaks of A and a in this formula as elements, and even goes so far as to allow that they have become fused below the threshold of consciousness.[4] At the same time he is careful to insist that as this "product" enters consciousness, the representative element a has no independent existence. It is, so to say, embryonic, something additional to the mere sensation, yet something less than a "free or independent idea". It is a "tied" (*gebundene*) idea. Explicit memory, association or comparison, is only possible when such ideas in the making have entered upon their career as independent members of the content of consciousness. I believe

[1] *Senses and Intellect*, bk. ii. ch. i., 2nd ed., p. 332.

[2] Dr. Bain lays claim to the support of Prof. Sully on this point, but hardly justly as it would appear. *Cf.* the latter's work on *The Human Mind*, i. pp. 186 ff. [Even Hartley is against him: *cf. Observations on Man*, 1st part, see pp. viii.-xi.]

[3] Höffding, "Ueber Wiederkennen, Association u. psychische Activität," *Viertcljahrsschr. f. wissenschaftl. Philosophie*, xiii. and xiv.; Lehmann, "Kritische und experimentelle Studien u. das Wiedererkennen," *Phil. Studien*, v. and vii.; Wundt, "Bemerkungen zur Associationslehre," *Phil. Studien*, vii.

[4] *L. c.*, xiii. p. 437.

there is considerable warrant for this way of looking at the facts, and indeed have gone even further—possibly too far—in suggesting the theoretical distinctions of presentation-continuum, memory thread, and ideational tissue. But unhappily, as regards Höffding, there is still too much of the atomistic conception of presentations, too much "mental chemistry" still, lingering in his exposition. This, I think, has led to some of the misunderstandings of which he complains.[1]

And there is a yet more serious uncertainty, referred to by at least two of his critics,[2] which he has so far not attempted to clear up. What is the relation of the effect of habit or exercise to the "tied idea"? Thus, at the outset, Höffding says: "[Immediate] recognition, or rather the quality of cognisancy [*Bekanntheitsqualität*], is then the psychological correlate of the greater ease with which a change is produced in the arrangement of the cerebral molecules concerned". And again: "That which I express *theoretically* as the fusion of a sensation with an idea is the change which a sensation can undergo through repetition. It is the effect of exercise (*Uebung*) and nothing else."[3] The phrases "psychological *correlate*" and "*effect* of exercise" here seem to mean that *a* itself answers to the sense of familiarity or facility. But if that be so, what justification is there for the very different conceptions of "tied ideas," "fused elements," and so forth? In other words, are there two psychical results of repetition—facility and the growth of *a*—or is there only the latter of these? Is the ease consequent on exercise only a physiological fact, or has it a psychical concomitant distinguishable from the nascent *a*? On this point, as said, Höffding seems not clear. But there is much to be urged in favour of the view that the facility (or familiarity) of a perception is a psychical fact distinct from the gradual elaboration of the memory-image, and that repetition furthers both.

If it were true that cognition begins in purely passive affections or impressions *ab extra*, it would be useless to talk of an activity concerned in simple apprehension. But the current conception of a sensation leaves out of sight a part of the entire fact that is here of importance. A sensation is not mere content of consciousness, psychical object,

[1] That of Prof. James, *e.g.*, in his *Principles*, i. 674 f.

[2] Lehmann, *Phil. Studien*, vii. p. 182; Offner, *Phil. Monatshefte*, xxviii. p. 407.

[3] *Op. cit.*, xiii. pp. 433, 453.

datum, or presentation; if it is actual at all, the subject must be conscious of it, it must be apprehended, it must be received. As regards this point the sharp severance between sensation and perception in our present terminology seems a mistake. The older use of perception—as when Locke, for example, says: "Perception is only when the mind receives the impression" (Essay II., ix. 2)—is so far better. This granted, and if it be allowed that the individual is not equally ready to receive all impressions, there is room for progress in facility or faculty of apprehending given particulars. It is to this, I take it, that we must refer the feeling-element of cognition already mentioned.

As regards Höffding's "tied ideas" or the gradual elaboration of "memory-images" more needs to be said. If this process and the distinctions implied in it were satisfactorily established it would be easier to define the range of association. But there is perhaps no part of psychology less carefully explored, or more crowded with pure conjecture, than that relating to the transition from impression to idea. For this our meagre terminology is partly to blame: we are like a Robinson Crusoe who should set to work to build a house and make his clothes with no better tools than a hammer and a bradawl. Thus retentiveness, recognition, reminiscence, recollection, are more or less lumped together as "memory". Ideas are described as "faint impressions" due to central excitation; and all complexity, ascertained or inferred, is put down to "association". In consequence the lower animals are often credited with ideation and memory on evidence that only warrants the attribution of perception. Yet there are facts enough in human experience that show the wide difference between perception and free ideation; but these facts too are liable to be confused so long as the same term "reproduction" is applied both to the "representative element" in perception and to the free ideas of memory or imagination. Thus tastes and smells are perhaps as well recognised as colours or sounds, but certainly have nothing like the same possibility of independent reinstatement. There is then a reasonable probability in the supposition that "ideas" have to pass through a stage in which they can only modify fresh impressions before they attain to the independence implied in reproduction by association, before, that is, they are properly entitled to be called ideas.

A psychophysical hypothesis, very generally accepted by psychologists, has unquestionably tended to arrest this inquiry

into the development of free ideas—the hypothesis, *viz.*, that the seat of ideas is the same as the seat of impressions. This doctrine is very clearly stated and enforced by Dr. Bain and is often referred to under his name[1] and accepted on his authority. As a refutation of "the old notion of a cerebral closet quite apart from the recipient apparatus," Dr. Bain's arguments are entirely satisfactory. But since 1855 both psychology and neurology have advanced so much that the old answer no longer suffices. A brief discussion of this hypothesis, so far as it bears on our main inquiry, together with the inquiry itself, must, however, for the present be deferred.

[1] *Cf. Senses and Intellect*, 2nd ed., pp. 343-352; *Mind and Body*, p. 89.

VI.—DISCUSSIONS.

THE ORIGINAL DATUM OF SPACE-CONSCIOUSNESS.

Under this title Mr. E. Ford, in the last MIND, propounds to Mr. Ward and myself an alternative which he considers fatal to our doctrines of space-perception. May I make a reply to the criticism so far as it concerns my own view?

Mr. Ford says that 'local signs' are "utterly inadequate to furnish a foundation for the perception of position". If 'to furnish a foundation' mean 'to *explain*,' I entirely agree with our critic. The word 'local sign' has perhaps come to be abused in recent literature on the space-question. Lotze's original intent with it (if I am not mistaken) was rather negative than positive. He needed a term which would denote a numerically distinctive quality in each point of our sensitive surfaces, and yet which would not connote any positive explanation of the relative positions in which the objects perceived by the points appear arranged. But one now notices a tendency to use the term local sign as if it were meant to cover some mysterious explanation. I am not sure that Mr. Ford does not take it in this way, for he assumes that Mr. Ward and I 'deduce' or 'develop' space from the local sign system. I, for one, certainly disclaim anything of the kind. By defending what I call a sensationalist theory of space-perception, I mean expressly to deny that we can logically or rationally deduce the features of the finished phenomenon. Its antecedents are physiological. Mr. Ford asks: "How much does the conception of extensity involve?" As a matter of *fact*, extensity involves all that comes out of it in the way of finished space-determinations. But as a mere *conception*, I do not see that extensity necessarily involves any exact system of points with their relations or distances, for we may empirically be conscious of spaces that are exceedingly confused and vague as to their inner content. This is especially marked in dozing and in recovery from syncope or anæsthesia. Neither, on the other hand, do any number of distinct feelings, susceptible of serial arrangement, such as 'local signs' are assumed to be, necessarily 'involve' extensity, for we find in every department of our sensibility feelings which, when we arrange them serially, never appear spread out before us in space. That certain organs give us sensations of extensity, and that parts of these organs contribute objects which when separately attended to appear definitely placed within the extensity, are facts which seem to me insusceptible of any logical explanation. All we can say is, that these organs act in this way, and others do not.

Take, to illustrate, the cases of the eye and the ear. When we

first hear a musical chord, it has a certain richness and volume, but no distinct parts are apprehended within it yet. By setting the attention in a certain way, however, we discern first one, and then another of the notes. There is a quality in each note which identifies, individualises and distinguishes it from the rest. Moreover, if we 'compare' the notes, we feel a relation between them, which Prof. Stumpf has well called their 'distance'. One pair have more distance between them than another, so that we can arrange them serially. In the case of the notes, however, no one would seriously pretend that the distance was a *sound*, like that of the notes themselves. Most people would call it a relation intellectually and not sensibly apprehended; and if asked *why* it is not sensibly perceived, would simply say that we have no sense-organ for such relations. Now the field of vision is both like and unlike the chord. It is something rich and voluminous, within which presently, by setting the attention, we discern first one and then another spot, and then, by comparing, define the distance between them. Only here the distance is a thing *seen*, and not a relation apprehended merely intellectually; for in the eye we have, as in the ear we have not, a sense-organ for such distances. Simultaneously with the spots, their distance is optically felt, the physiological condition of the feeling being the excited retinal tract which stretches between the retinal points on which the spots fall.

But, says Mr. Ford, if the seen distance, or line, "is a feeling, what is the relation between this feeling and the two points which it connects? Our reply of course would be: That of 'besideness,' of local contact, which we consider must be postulated as a primary datum. We do not see what answer would be open to Mr. James."

To which I can only reply that the answer 'primary datum' is as open to me as to Mr. Ford. That two seen things, when distinguished, appear 'beside' each other, and that two heard things do not, seem to me two inexplicable facts. The usual explanation that we pass from the one seen thing to the other by a muscular 'sweep,' the feeling of which is absent in the case of the heard things, is quite inadequate; for (even if the facts were strictly true, which they are not) one does not see why the end of a muscular feeling *should* appear separated in space from its beginning any more than one sees why the beginning and end of a sound should *not* so appear. Nor can the Mill's phrase of 'mental chemistry' or Wundt's of psychic 'synthesis' be held to have explanatory value. On the contrary, they but re-name the mystery. Whatever the intrinsic character of the qualities known as local signs may be, if they are susceptible of serial gradation, they must appear more or less 'distant' from each other, and some will appear next each other. But the distance will be space-distance, and the nextness will be 'besideness,' only when the whole system of qualities aroused together appears with spread-outness or extent. Serial position

then becomes sensible and palpable as *place*. Behind this 'ultimate fact' we cannot go.

When then Mr. Ford offers his final dilemma: "The local sign is either given as a relation or as a quality; if the former, the relation of position must be original and the development-theory is superfluous; if the latter, the theory fails;" I can only say that I know of no development-theory for which I am responsible, for I never tried 'to develop' either extensity or position out of local signs. The local sign is of course a quality, and one local sign by itself cannot be given as a relation. But that, when many local signs, or rather the sensitive organic points which correspond to them, are excited together, the objects tinged by the local signs appear *in* relation, and eke in relations of position, is a fact which no theory of mine ever attempted rationally to explain.

WILLIAM JAMES.

PROFESSOR JAMES ON SIMPLE RESEMBLANCE.

I feel that some reply is due to Prof. James' remarks in the last number of MIND, and I will begin by recalling the original issue. Professor James contended "that any theory which would base likeness on identity, and not rather identity on likeness, must fail". He argued not that there *might* be but that there *must* be simple resemblance not resting on identity.

In proof of this thesis he adduced arguments which I endeavoured to meet. These arguments, as they were stated, are withdrawn, and Prof. James now relies on a simpler form of one of them. He argues that identity not based on mere resemblance is untenable, because it leads to an infinite regress. And I will try to deal with this contention in its present shape.

The attempt is difficult for this reason, that, desiring to examine the proof adduced, I am unable to find any. The series of degrees, not degrees of anything at all, is no longer urged, and Prof. Stumpf's subtleties are no longer before us. But I can discover nothing which is to stand in the place of these. There is an assertion that identity must lead to an indefinite regress. But the ground of this assertion seems not stated explicitly.

And hence in the main I have to repeat that a view of identity exists, which, so far as I see, wrecks Prof. James' thesis, and which, it seems to me, he throughout, and from first to last, ignores.

Identity and difference on this view are inseparable aspects of one complex whole. They are not even "discernible," if this means that you can separate them in idea, so as to treat one as remaining itself when the other is excluded. And the whole is emphatically not a "synthesis," if that means that it can be mentally divided, and that its elements then still keep their characters. The "Hegelian commonplace," suggested by Prof. James (p. 210), is therefore, to me at least (whatever Hegel would have said of it), in principle erroneous. It seems to contain the root of Prof. James' own doctrine.

Let us take, for example, the different kinds of our sensations. In each kind I should say that there is something the same. Colours or smells differ among themselves, but there is a point in which, as coloured or as odorous, they are identical. But to call this or that colour a "synthesis" would in my view be mistaken. For the uncoloured differences on one side, and their colour in general on the other side, are the products of false analysis and vicious abstraction. You may of course consider and attend to either the sameness or the differences in colour; but you must not use language which implies that either aspect, if not qualified by the other, is consistent even in thought. You cannot, in short,

separate them even in idea; you can only lay stress for the moment on one side of an integral whole. It is as it would be at a far lower degree with, for instance, the inside and the outside of a sphere. Whichever of these you consider, you have also the other along with it. And to speak of their "synthesis" as if they were Indian boxes one inside the other would be in principle vicious.

And the view which I advocate is so far from seeming to me subtle, that I am prepared to hear that it is even trivial. But let us see how it applies. With colours and smells, and other kinds of experience, we have not reached the end; for these again are all alike and have something in common. They are all alike in being experienced or felt. Sentience, being, or experience (these are all the same to me) is a character in which everything is finally identical. And let us see if this doctrine is destroyed by Prof. James' indefinite regress.

We hear that analysis, if we pursue identity, takes us to one of two conclusions, each untenable, and that therefore simple resemblance is true. Whether simple resemblance itself is tenable seems a question not directly faced. An attempt is made to prove that thesis indirectly by setting out and refuting all other possibilities. But I hardly see how it can be assumed that we *must* possess *some* tenable view. And in particular I cannot find that the above view of identity is recognised at all. But, if so, the proof is obviously unsound. I am ordered either to accept the "Mind-dust theory"—a thing I venture to consider not worth the least notice—or else to affirm "the postulation of point after point, encapsulated within each other *in infinitum*, as the constitutive condition of the resemblance of any two objects" (p. 208). But these alternatives surely do not include the view which I hold. To me it seems strange that colour should be encapsulated within colours, and general sentience within sensations, and that my own life should be felt the same only because somewhere it has, or is, a box with something in it, and that otherwise my life is one because of one (?) simple immediate resemblance, resting, I suppose, on no constitutive condition whatever. But what to me is strange too is that any one, thinking so about Identity, should incline to banish it only at a certain point and not wholly and altogether.

And this idea of "encapsulation" is, so far as I see, no mere metaphor. It seems the whole argument, and it contains the entire essence of Prof. Stumpf's superfluous subtleties. The view which, if not refuted, ruins Prof. James' thesis is this, that identity is always one aspect of an integral whole, and that if you abstract it, in the sense of ideally putting it in a box by itself, you have made it inconsistent with itself or reduced it to nothing. Experience or being is the last term in my regress and is where I stop. And I am told that I am bound in reason to go back further still. And asking for a reason all I get is this. We

have, say *a*, *b*, *c*, *d*, all with one ultimate aspect *m*. And I am ordered to encapsulate *m* and then to see what happens. But I was taught what happens years ago when I learnt too imperfectly from a great master who saw into these matters perhaps as far as Profs. Stumpf and James. And I remember enough to recognise in this order to encapsulate the merest attempt to beg the whole question. And I say that I will neither take *m* as abstract being and so make it nothing, nor will I take it as a "synthesis," and so within it set up an infinite regress. I will take it rather as one aspect in vital connexion with another aspect, and, if this is absurd, I ask at least that some one will try to tell me why. For my part, since in experience identity and difference seem indissoluble and since otherwise the entire world of our knowledge seems dissipated, I will take them in this union though certainly I cannot explain it. For I have always supposed that explanation must stop somewhere. And if any one urges against me such questions as how quality makes itself and how relations are engendered, I submit respectfully that all this is the merest irrelevancy.

So far as psychology is concerned I have tried elsewhere to make my view clear. The question between Resemblance and Identity I have urged is there one of relative efficiency. I have protested and I do protest against attempting in psychology to judge of ultimate truth. If Resemblance *were* the ultimate truth I would not use it in psychology, because I am sure that there it works badly. And when I hear from Prof. James that he cares about it as a thesis, that a little surprises me. For where, I ask, in psychology is this thesis to be *used?* Prof. James, I thought, had broken with that insane mythology which Resemblance begets. I thought that the doctrine accepted from Prof. Stumpf was a thing out of connexion with his actual work. But if he cares about it then clearly I am somewhere mistaken.

Or is the thesis idle psychologically, and is it as a piece of ultimate metaphysical truth that Prof. James contends for it? I wish, if so, that point had been clear, for, if so, from the first I could have been much shorter. The question is, I presume, the fundamental problem about the One and the Many. Can these features be held apart, and again is there any way of intelligibly taking them together? What opinions I have on this matter are in print and ready to appear. But I will say at once that in the full sense of the term intelligible I do not think the union of these aspects of the world is intelligible. I think that in the end *each* (not merely one) shows inconsistency when apart, and that taken together they fail to satisfy the ultimate demands of our intellect.

But there is something else I think also. So far as the world or any part of it is to any degree intelligible, so far as there is any knowledge which to any extent goes beyond the barest feeling, this is the case solely because Identity, as I hold to it, is fact and truth. Deny this principle and the world, as we have it, is destroyed. And immediate Resemblance without identity seems to

me on the other hand sheer nonsense. As a principle of knowledge it is useless and worse than useless, and in itself it is a mere heap of staring inconsistencies. And if I am invited here to a metaphysical discussion I will make Prof. James this offer. If he will state the principle on which he objects to identity (a thing which let me remind him he has not yet even attempted to do), I also will take the same principle, whatever it is. And I will show that judged by it Prof. James' thesis as to Resemblance (No. 3 on p. 308) is indefensible. But I should add that I venture to provoke this conflict only because I feel sure that any appeal to principle would render it unnecessary. And if I am asked, Since all at the end may be unintelligible, why not at the beginning say, All is simple, and so have done with it?—I feel the force of that inquiry. But I would suggest in answer that not to trouble oneself at all might be even simpler.

If, however, we may remain on the firmer ground of psychology, I would end these remarks by stating how the case seems to stand. The contention against Identity was that at a certain point it breaks down and must give place to Resemblance without identity. So far as I have been able to understand this contention, I have tried to answer it. And the point I would urge is this. If in psychology such Resemblance is wanted, then (true or false) by all means let it be used in psychology. And if Prof. James could show me that in his own admirable work he has found it useful, that to me would be an argument of very great weight. And if by the help of it he could solve the problem of the perceived unity of a series, I would confess that these remarks have been largely mistaken. But if, in psychology at least, the principle will not work—if it merely lingers with the lingering survivals of the old Association mythology—why not banish it from psychology? Why not let it reign, if it can, in the distracted realm of metaphysics?

F. H. Bradley.

RECENT DEVELOPMENTS OF THE DOCTRINE OF SUB-CONSCIOUS PROCESS.

Perhaps the most striking feature in the recent development of Psychology, and more especially in that branch of it which is known as psychical research, is the tendency to break up the unity of consciousness into a plurality of distinct personalities. "I am told," said Professor Clarke Maxwell, "that I shall have soon to believe myself to be a congeries of plastidule souls"; and some at least of those who have taken up the study of mental phenomena seem now to have accepted that belief unreservedly. Upon others who cannot reconcile this view with their own immediate experience the language used—say, for example, in the *Proceedings of the Society for Psychical Research*—has an effect of bewilderment which it is difficult to shake off, and which tends, I think, to throw confusion rather than enlightenment over the whole subject. In trying to point out some of the difficulties which oppress a reader of this latter class, my object is rather to give them shape and definiteness than to attempt a solution.

The keynote to the whole theory may be found in the use of such terms as "double" or "duplex personality," "multiplex personality," "*das Doppel-Ich*," and so on. It does not appear that as yet there is any generally accepted terminology, and so far as I can gather in the absence of definitions the meaning of "personality" is apt to vary with the nature of the phenomena in which the writer happens at the time to be interested.

As generally used it appears to be identical with a "chain of memory"; and again it is implied, if not assumed, that a "primary," "secondary," or "subjacent" consciousness is equivalent to a distinct and independent personality. Now it is by no means obvious that consciousness, especially when subjacent, involves a chain of memory, and it is difficult to proceed any further in our study until some more definite meaning has been attached to the word.

If, however, we determine to ignore this difficulty for the present, we seem to find three different forms of the theory, nowhere distinctly differentiated, but developing themselves more or less gradually. In the first place, there is the form which results from the assumption of what we may call different "layers" of consciousness. Here the personalities exist contemporaneously, and we may again distinguish them according as they are known only as the supposititious accompaniments of physical events or manifest themselves in genuinely psychical phenomena. The former personalities, under the title of unconscious mental processes, have gone far towards establishing their claim to be regarded as necessary and scientific hypotheses.

The third form of the theory appears where we have *successively* independent trains of memory, where the break between one personality and another might be represented as a break in

a straight line, rather than as a distinction between different planes. If we examine this form first we are at once confronted with difficulties.

In the first place, if the different chains of memory are to constitute different personalities it must, I suppose, be assumed that they are wholly different; that the break is complete. But such a break as this would appear to be not only not forthcoming, but from the nature of it inconceivable and—if we may use the term —"unknowable". Subjectively it obviously could not be known, since the recognition of difference implies a unity of consciousness, including and transcending the difference. A *subjective* break in consciousness is a contradiction in terms. On the other hand, to suppose that such a break could be known by the experimenting observer—or at least that it *has* been known in any of the instances cited—seems to point to a defective psychological analysis. To make this evident it is necessary to examine briefly the main "elements" in consciousness at any time. Roughly speaking, and for our present purpose, we may distinguish three factors which are never separated. There is what is known as the "organic sensation" or cœnæsthesis, which is largely coloured with "feeling" and so exercises a great influence on the play of our ideas; there is in especial prominence all that group of presentations—sensations and ideas—which constitute the present as distinct from the past and future; and, finally, there is "complicated" with these and endowing them with all that they possess of meaning and reality, an immense mass of sub-conscious but most important memories. Using the term sub-conscious in the sense of "undiscriminated parts of a discriminated whole," it would hardly be too much to say that these sub-conscious memories form the larger, if not the chief part, of consciousness at any moment; and so far as evidence goes to show this section—or rather aspect—of consciousness remains to a large extent untouched throughout the phenomena of hypnotism and so-called duplex personality. It is the memory of association only which breaks down; that of complication survives. Objects continue to be recognised as such, and even to be known by their names; and the nature of space and distance has not to be re-learned when the second "personality" comes into being. Presumably this is because in this sort of connexion memory has become to a large extent involuntary, *i.e.*, independent of feeling, whilst the play of ideas through ordinary "associations" is largely determined by pleasure and pain. Hence the intimate connexion between the fully conscious memory train, and the sub-conscious "organic sensation" which enables the experimenter by influencing the latter to give a different direction to the flow of the former. These three elements are all involved in the true psychological personality, and so far as identity of personality depends upon connexion with the past (we avoid here any reference to the logical and metaphysical *Ego*, in face of which a difference

of personalities becomes an absurdity), it is that part of the subconscious undiscriminated element which is neither accompanied nor influenced by feeling to any appreciable extent which constitutes the most important factor.

It may be urged that a difference in personality does not involve any such complete break as I have here assumed; that identity is sufficiently destroyed if the fully conscious memory train is disconnected to such an extent that the Subject in one state *cannot* recall the train peculiar to the other state; so that to all intents and purposes he leads two lives. Here again we are, I think, misled by an unpsychological attitude. In the first place for the psychological subject "cannot" and "does not" do not differ in meaning, and this because of the essential unity of consciousness which will not permit that more than one train of thought can at any moment be in *full* consciousness. Hence the proper expression would seem to be not that the Subject cannot pass from one series of ideas to another, but that the one series does not naturally lead to the other. But this is no more than can be said of the most ordinary undivided person, in his most ordinary states of mind. Whenever attention is concentrated on any one chain of memory there are many others excluded for the time being, and in an excitable nature nervous emotion may exclude—or "inhibit"—any chain of memory, properly so called. Every one but an infant or an idiot has many such chains, from which he is completely shut out at certain times. There is the chain of memory constituting the multiplication table, or a piece of poetry; if I were to attempt to recite these in public they would be as entirely blocked out or flooded by a wave of excitement as if I had been hypnotised; but it could not be said, except in a metaphorical sense, that I was another personality—I mean, that another personality would have taken possession of my (or its) body. Plentiful illustrations of the phenomenon may be found in the annals of the Salvation Army, and the process of giving a new direction to a man's thoughts and therefore his inclinations bids fair to become an important factor in religious and moral education, but the interest of the work would vanish—from a moral point of view—if the original and presumably bad personality were not "regenerated" but merely superseded.

Is there, moreover, anything to be gained by this arbitrary division of Selves? are we not tempted by it to exaggerate what are no doubt very striking deviations from the ordinary course of mental development, and to close our eyes to the fundamental unity underlying such deviations—perhaps all the more easily because it is so fundamental. And, further, do not the facts of hypnotic suggestion themselves tend to show how close the connexion really is between the groups of ideas which have been thus elevated into "personalities"?

Passing now to those forms of the theory in which the personalities appear as contemporaneous the confusion appears to be due

not so much to wrongness or incompleteness of method, as to a perverted use of language. If we once allow ourselves to apply the terms memory and mental to facts (?) which are not remembered and not known we cannot refuse to go further and allow that "every cell in our body may have a separate memory, and therefore in a sense a personality of its own". Put into physical terms this may be true enough; I suppose that every physical—or physiological—impression leaves its mark, and perhaps a tendency to its own reproduction, and if one cell receives an impression which is not shared in by its neighbouring cells it is so far differentiated from them; but does this constitute a personality? It is the so-called automatic actions which yield the ground for this form of the theory; if the body carries out a series of systematic actions while the mind is occupied with thoughts having no reference to that series it is assumed that there must be a secondary consciousness to which the series is present and by which it is controlled. It is assumed, that is, that every physical change in the body must have its psychical counterpart somewhere. If this be allowed there seems no reason why we should not carry the assumption further and assume a psychical counterpart (and consequent personalities) to the action of the radiometer in the sunshine, and the growing seed. But is it not possible—and if possible preferable in the present stage of psychology—to avoid such far-reaching hypothesis by giving a purely physical interpretation to the phenomena of automatic action? A physical or chemical stimulus on the eye produces a physical reaction in the finger for which repeated impressions have prepared the way, and we have automatic piano-playing.

It is different with the hypothesis of "unconscious mental processes". These are assumed, not as the concomitants of a physical series, but as the antecedents of true psychical facts; and the reason for assuming them lies in the prior assumption that otherwise those facts would be without (psychical) antecedents, would, that is, be effects without causes. I venture to call this an assumption because I do not think it is yet clear that a sufficient psychological analysis might not in every instance find an antecedent in the consciousness proper—that is, in the "primary" stream of consciousness as maintained by its background of sub-conscious memories.

What is meant by "unconscious mental processes"? It will be allowed, I think, that the process as such, the act of passing from one idea to another, is rarely, if ever, a matter for consciousness. The meaning seems to be that there is an interaction between ideas which are not present to any consciousness (but which might conceivably be so were not attention preoccupied), and that this interaction both starts from and results in an idea which *is* present to consciousness, and which is moreover disconnected with, irrelevant to, the contents which it finds in con-

sciousness on its appearance. I think a fair example of the kind of instance in which this explanation is used (and one which is often cited) is what happens when an idea is sought for in vain, and comes later unsought, and to all appearance unaccountably. Here the explanatory hypothesis involves not only the unconscious series connecting the two conscious points, it involves also a purposive direction of the series towards the desired object, a tentative process of rejecting all members of the series until the right one occurs, and reserving that one for elevation into consciousness. This is a large assumption to make except under strong pressure, and I should like to analyse such an instance more closely, in the hope of finding some more acceptable explanation.

Suppose what often happens, that I am looking for a word which persistently evades me; there is my sentence before me, incomplete, leading up to a word which will not present itself. "The sequences of logic are necessary, those of ordinary thought merely . . ." merely what? Accidental?—no, that does not fit, the word I want begins with "C". Coincidental?—no, that is at once rejected as nonsense. Contingent?—no, that seems to fall into place, but there is an absence of meaning about it which makes me suspect it of being an impostor. I give it up, and leave a blank. An hour afterwards I am tidying my book-shelf and thinking of domestic matters as I put Glen's *Poor Law Orders* in its place: Casual! that is the word I want. Am I to suppose an unconscious mental process, a second self, or dæmonic secretary at work underground and telephoning the word up just when he happens to find it, quite irrespective of my present needs and occupation, or even a purely mechanical interaction of ideas which happens to come to an end just here? Not at all; the Poor Law covers a very large group of ideas in my mind, amongst which the casual ward is constantly coming to the fore. What has taken place is something like this: I have been trying to use a word in an unfamiliar connexion, it happens that in that connexion there are several other words expressing nearly the same meaning and more commonly used; they have blocked the way, caught the "search light" and reflected it back before it reached its destination. But they have also been rejected and the sentence remains unfinished. Now there is nothing which lingers in memory so long as an unfinished sentence, or an unanswered question; and naturally. For ten minutes or more I have been thinking of it and repeating it and puzzling over it; the thought is there all but a minute portion, that portion being the difference in meaning between accidental and casual; attention has been working round that meaning, lighting upon now this fraction of it, now that; it only needs the word for the whole to flash out with peculiar brilliancy in proportion to the amount of labour already expended. Suddenly a more familiar connexion is started, and it is there. Now note

another significant fact. I am at first puzzled by the importance the word assumes for me; why has it thrown itself at me like this? did I want it for anything? My seeking attitude is resumed, I remember my previous search, and the word falls into its proper place in the sentence. But the process is the reverse of that which would have taken place if the word had been the result of my original search (or of an "unconscious mental process"); *then* I was looking for an *x* to supply a want, now I am puzzled by an item of thought disproportionate (*not* irrelevant) to its context. We have seen the source of the peculiar emphasis attaching to the idea; it is due to the fact of attention having been concentrated so recently upon almost coincident ideas; *abx* was the idea wanted, and I have been dwelling upon *abc*, *bxd* and *axc*. Briefly, my recent efforts have lent peculiar force to the greater part of the idea, and when chance brings it within the focus of attention, this peculiar brilliancy re-attracts attention, and curiosity is set to work until it falls into place.

May not some such accidental association account for all apparent instances of unconscious mental processes? We cannot always trace the connexion, the association (the very interest attaching to our unexpected success in the instance above noted tends to obliterate the circumstances which gave rise to it and were in themselves almost without interest); but still less can we assume that it is not there, that an idea has found its way into a series which has in no way led up to it. *That* would be the true breach of continuity, which no hypothesis of unconscious mental processes could bridge over.

To sum up: to the student who has not accustomed himself to the idea, the breaking up of the Self into independent Egos—whether these be contemporaneous or successive—seems on the one hand to contradict the facts of psychical experience, on the other hand to be not yet essential even as a working hypothesis. Would it not be possible to place the whole subject in a clearer light by adopting some common standard of personality and by respecting the prejudice in favour of unity of consciousness until its contradiction becomes inevitable?

HELEN DENDY.

VII.—CRITICAL NOTICES.

The Evolution of Religion. The Gifford Lectures delivered before the University of St. Andrews in sessions 1890-91 and 1891-92, by Edward Caird, LL.D., D.C.L., Professor of Moral Philosophy in the University of Glasgow. Glasgow: James Maclehose and Sons, 1893. 2 Vols. Pp. xv., 400 and 334.

Every one knew that anything which Professor Caird wrote on the philosophy of religion must be interesting and important to the highest degree. But this book will probably surpass most expectations. For it goes, as it seems to us, very far towards supplying the want for which idealistic philosophy has been longing, and longing vainly, to find some solace. Philosophy always feels that its work is incomplete, so long as it does not show itself in practice, as it is potentially, capable of organising and vivifying human life. More particularly must idealistic philosophers long for such an activity, believing, as they must do, that the truth is desirable, not only as true, but as good, while they see around them so much mental distress caused by the unwilling acceptance of scepticism or agnosticism, which, as they cannot but hold, is based upon a mere delusion.

But so far there has been a great deficiency—almost indeed a total absence—of books which should give to persons interested in the results of metaphysics, but unable to devote their whole lives to its study, some account of the conclusions arrived at by the Critical and Dialectic philosophies, and some reason to hope that those conclusions might have probability on their side.

These lectures are admirably fitted to supply such a place. They do not, indeed, profess to be a demonstration, but rather a history. But Professor Caird traces the connexions by which one form of religion leads on to another with such force and precision, that one sees revealed in the temporal succession of creed to creed the logical justification of the system in which the process culminates. And that the primary object of the book should be to consider the subject rather under the aspect of a religion than of a philosophy only renders it fitter as a popular introduction to the subject, both as bringing the questions forward in a more concrete and popular manner, and as making clear in what the practical importance of philosophy consists.

Professor Caird starts with a provisional definition of religion—that it is the expression of a man's "ultimate attitude towards the universe"—which at once makes it clear that he does not share in the disposition to regard intellectual convictions as indifferent to religion. From this he proceeds to the still more difficult task

of finding a provisional working definition of God. He defines God as "an absolute principle of unity which binds in one 'all thinking things, all objects of all thought,' which is at once the source of being to all things that are, and of knowing to all things that know". It is the idea which binds together in one the two other great ideas of our nature, those of subject and object. The thesis that the validity of the ideas of subject and object involve the validity of the idea of God is worked out with great force and clearness, and at the end of the nineteenth century Professor Caird quietly informs us that every rational being, as such, is a religious being. His opponents will probably prefer to ridicule his audacity rather than to attempt to meet his reasoning.

Of course such a wide definition of God must include many most imperfect conceptions. It may be logically implicit in any idea which is taken as the absolute unity of the universe that in it both subject and object should find their completest realisation. But often very little of this is explicit. The object is conceived as a merely mechanical system, ignoring and crushing all claims of the subject to be treated not merely as a part, but as a co-ordinate whole, an end in itself, and the subject's most fundamental being is conceived, not as a harmony with objective truth, but as a wild and hopeless protest against it. In this case we get, if the emphasis is laid on the object, a system of materialism, if the emphasis is laid on the subject, a system of pessimism. Is such a unity as this to be called God? Or, passing to the other extreme, what are we to say of those who, while they believe the universe to be essentially spiritual, and personality the supreme form of spirit, yet conceive the Divine rather as a unity of persons than as a personal unity, rather as a *civitas Dei* than a *Deus ?*

Professor Caird's definition, it may be objected, reduces belief in God to a truism. If all recognition of *any* unity in the universe is belief in God, then the only atheists are to be found—to adapt Hegel's phrase as to the only true physicists—"among the animals, since they alone do not think" (*Encyclopædia*, Section 98, lecture note). And the differences between those who affirm and those who deny that God is essentially personal, and still more the difference between those who affirm and those who deny that God is essentially spiritual, are so vast that to declare that all alike *do* believe in God is apt to seem like a futile crying of peace when there is really war. Yet on the whole we think the balance is in favour of the phraseology of these lectures. For it indicates with greater clearness how the higher conception of God must be justified. if it is to be justified at all. We must not form a notion of what God ought to be from some external source, and then, by arguments having no inherent connexion with the nature of the idea, endeavour to find a place for such a God in the universe. We must rather start with the facts which are beyond denial or doubt, with the bare fact of the unity. We must see

into what this can be developed, by making explicit what is implicit, and when we have thus, to the best of our ability, ascertained the truth, it will be time to ask whether the conception, thus reached, satisfies our practical and emotional demands. Our guide must be, not Apologetics, but Dialectic.

Professor Caird then proceeds to make his definition clearer by criticising, from the standpoint thus gained, the view of Professor Max Müller that the principle of religion lies in a consciousness of the infinite as the something beyond, and the correlative view of Mr. Herbert Spencer that it lies in the consciousness of the infinite as the unknowable presupposition of the finite. As becomes an Hegelian writer on the history of philosophy he is at least as anxious to point out the truth inherent in both these views as he is to demonstrate their incompleteness. We cannot but think, however, that he carries geniality rather too far when he finds (vol. i. p. 104) in Mr. Spencer a more logical Spinoza, in spite of the delicate irony of the praise. No doubt Mr. Spencer and Spinoza commit the same fundamental mistake, they "reach the infinite simply by wiping out the lines of divisions between finite things and beings". But even apart from the "sublime inconsequence," as Professor Caird happily calls it, of the *amor intellectualis Dei*, Spinoza works out his mistake upon quite other lines from Mr. Spencer's. Nothing is further from Spinoza at any time than the one assertion which is fundamental for Mr. Spencer—that we cannot know the Absolute. He conceives it as known by us as the positive substance in all the modes, though as contributing nothing to the determination of the modes in one direction rather than another. Mr. Spencer, on the other hand, takes it to be behind the phenomena, and unknowable in consequence. Or, in other words, the initial misconception of the infinite, issues in one case in a supposition that we can know the undetermined, in the other in the assertion of various propositions about the unknowable.

Of course a parallel, and an important one, can be drawn between Spinoza and Mr. Spencer on the lines indicated. We only mean that, in a book which is sure to be widely read by persons without any knowledge of the history of philosophy, such a broad statement may produce the belief that, but for his inconsistent mysticism, Spinoza's general attitude resembles Mr. Spencer's.

Professor Caird, having provided himself with tools by means of a careful and lucid explanation, in the first lecture, of the ideas of organic unity and of evolution, starts on his account of the dialectic of religious thought. As might be expected, he puts it into the form of an Hegelian triad. The first stage is that in which the consciousness of God is reduced to the level of the consciousness of an object. From this type—that of objective religions—we pass to the second stage, the subjective religions, in which the consciousness of God is reduced to the form of self-

consciousness. And finally, in Christianity, God is known explicitly as at once the presupposition and the end of both subject and object. This is a true Hegelian transition, but it is worth noting that it cannot be reduced to that type with which the general reader is most familiar—that which appears in the categories of the first Doctrine. For in that thesis and antithesis are on a level, and the synthesis is reached from both of them equally. Here, however, the passage from objective to subjective religion is expressly declared (i. 352) to be an advance. And again the transition to Christianity is regarded as largely reached by a dialectic process inherent in Judaism, a subjective religion. Judaism indeed, it is said (ii. 253), could not have produced Christianity if it had not been touched by Persian and Greek ideas, but the historical connexion with Judaism is regarded as the vital thread in the transition, and this involves the view that the antithesis itself has begun a reconciliation, by taking into itself something of the thesis. The transition is such a one as may be found in Hegel's "categories of Essence".

Our space does not allow us even to summarise the author's excellent account of the objective religions. We can only find room for his suggestive remark that savage animism was due quite as much to failing to see that human nature was more than dead matter, as it was due to actual predication of human attributes of the outside world, or, as he expresses it (i. 264), earlier religions may have personified natural powers, but the Greeks were the first to humanise them.

The transition from the objective to the subjective standpoint is illustrated by the transformation of the Vedic religion which shows itself in the Upanishads. The search for a unity, in which religion consists, cannot be satisfied until the universe is conceived as swayed by a single principle, and "he who looks away from the universal to the particular, from sense to thought, must in the long run turn his eyes back from all objects to the self, as the one principle to which they are all equally related" (i. 354).

Under the head of subjective religions are treated Buddhism, Stoicism, and Judaism. Professor Caird points out how a merely subjective religion must lead, as in fact it did, to continually increasing pessimism. He lays stress on the gradual growth of the notion of evil in explicit opposition to good as exemplified by the conception of Satan in the book of Job as God's servant, while in the time of the Apocryphal books he had become the head of a kingdom of evil. In the same direction is the change of the statement in Samuel, that Jehovah moved David to number the people, to the statement in Chronicles that it was done at the instigation of Satan.

The transition from subjective to absolute religion is a little more obscure. But when we remember that the solution proposed by Christ, although, according to Professor Caird, it rests for its value on metaphysical principles implicit in it, yet never explicitly

asserted those principles as such, still less made any attempt to prove them, we can see that pessimism in itself completed the conception of a higher unity, though it could not demonstrate its validity. The contrast between the righteousness which the awakened spirit demanded in the universe and the unrighteousness which it found there—a contrast which had now grown too deep to be satisfied by the temporal reign of a human Messiah—naturally led to the idea of a unity in which the truth and the good should be combined—not in a future which would leave the opposition of the two sides as real for thought as before, but in the eternal unity which must be present because it is timeless. And since the idea of evil had become too prominent to be ignored or smoothed over, the only escape was to face the problem, to admit on the one hand the reality of evil, and yet to treat it as a mere transitory moment in the triumph of the good.

This, as Professor Caird tells us, is what Jesus did. And this is the central point of His teaching and His religion. "It is," he says (ii. 111), "this certainty of ultimate triumph, this combination of the despair of pessimism with an optimism that overreaches and overpowers it, nay, even that absorbs it as an element into itself, which constitutes the unique character of the religion of Jesus."

The interesting thing about this is that the importance of Christianity is definitely made, if we understand the author rightly, to depend on the enunciation of a metaphysical truth. Of course the founder of Christianity is not viewed as having elaborated a metaphysical system. The doctrine was quite as much implicit in His actions as explicit in His teaching, and even when it was actually stated, it was arrived at, not by metaphysical reasoning, but by some delicacy of spiritual intuition. But the central fact of Christianity is the affirmation of this doctrine as to the true nature of the eternal reality which manifests itself in experience.

It seems to be commonly supposed at present that there are only two ways of looking at the position of Christ towards the world. We may on the one hand consider it as supernatural, with the orthodoxy of the past. We may, as Professor Caird says of St. Paul (ii. 209), fail to distinguish revelation and realisation, and hold, not only that Jesus preached a reconciliation which was before unknown, but that He produced a reconciliation which was before non-existent. If we do not do this, the only other alternative left us is supposed to be the view that the secret of Christianity lies merely on the surface of experience, and involves no interpretation of the facts deeper *in genere* than is found in ordinary life. It is said to consist in the unique beauty of the actual life of Jesus, or the unique purity of the details of His moral teaching.

Professor Caird, however, who knows that there is something else in knowledge besides cutting loose from experience or accept-

ing it at its own valuation, adopts neither of these theories. He says in the first place that St. Paul's grasp of the truth is marred by his regarding Christ's life in the flesh as an episode between two lives of glory, and declares that the essential basis of Christianity is lost whenever simple humanity (by which we presume that humanity *per se* must be meant) is divorced from the divine. And similar expressions might be quoted, all of which tend to regard the incarnation of God in Christ as nothing but an explicit example of what exists implicitly in all reality. On the other hand, it is neither as a teacher of morality nor as an example of moral life that he holds Christ to be all-important. Not that He held that the good was binding on us, not that He acted up to His belief, but that He held that the good was the true, that He was "the greatest optimist that the world has ever seen" (ii. 109), in this lies the significance which we seek.

We cannot but think, however, that in doing justice to Christ, Professor Caird has done rather less than justice to Hegel. He says (ii. 109): "Even Hegel, in spite of his constant insistence on the negative element in existence, and on 'the earnestness, the pain, the labour and the patience' involved in that element, does not entirely escape the accusation of 'healing the hurt' of man too 'slightly,' of explaining away the darker aspects of life, and of confusing the opposites whose antagonism he seeks to reconcile. It is," he goes on, "a significant fact that no one has ever brought such an accusation against the greatest optimist the world has ever seen." This is, no doubt, perfectly true. But it must be remembered that Jesus made no attempt to demonstrate His optimism. He merely asserted it. Now it is comparatively easy to keep hold both of the reality and the unreality of evil, so long as we merely assert them side by side. And paradox is doubtless the beginning of wisdom. But it is not the end also. "Contradiction," to quote Hegel (*Encyclopædia*, Section 119, lecture note), "is not the end of the matter, but cancels itself." And although the Christian Church supplied the theory which its founder left out, it did so only, as Professor Caird has remarked, by degrading a universal and eternal truth into a particular and historical fact, as a result of which evil was conceived as overcome, not by its own inherent weakness, but by a power outside itself. And if the reconciliation is to be conceived as merely external, the reality of the antithesis is in no danger of disappearing. But if either Christ or the Church had tried to do both things together—to assert the immanent and inherent superiority of the good, and to demonstrate the transition in detail—they might have erred at least as badly as Hegel in the direction of a shallow optimism.

The lectures point out with great clearness the respective teaching of the historical Christ revealed in the Synoptic Gospels, of St. Paul, and of the Fourth Gospel and the first Epistle of St.

John. In the two latter, whether really by the same author or not, Professor Caird finds the same spirit. In the Synoptic Gospels Christ is presented merely as a particular person, whose life is one among many, and affords no explicit universal principle. In St. Paul's writings the significance of Christ becomes universal in its importance, but at the cost of becoming an isolated event, whose connexion with the destinies of mankind is comparatively external and mechanical. In St. John the two views are reconciled and the importance of Christ is seen to be that in His particular life was revealed the universal which is implicit in all particular lives, even the basest and the meanest—that in Him was made manifest the secret which is in all of us. His uniqueness is not, as both supernaturalism and positivism for different reasons suppose, that He was unlike other men, but only that in Him, for the first time, the common nature of all men became self-conscious. How far Professor Caird is right in supposing that there and then, in that particular person, no sooner and no later, the revelation came to mankind, is a question too large to discuss now. But no one can deny that his view is in the highest degree inspiring and suggestive.

We cannot but think that in his attempt, brilliantly successful as it is in the main, to ally Christianity with idealistic philosophy, Professor Caird goes rather too far in his assertion that "Die to live" is the central principle of Hegel's philosophy. The process into the antithesis, if sometimes looked on as a correction of the thesis, is sometimes looked on as its manifestation. If the two terms are sometimes related as contrary to contrary they are sometimes related as universal to particular. And, as the latter relation is characteristic of the later stages of the dialectic, it may perhaps be regarded as more essential. If the advance can be looked on as a purifying penance, it can also be looked on as a triumph, and the anticipation of experience, within certain limits, which *a priori* reasoning allows, disposes the philosopher to regard it at least as much in the latter as in the former aspect. And the attempt, on this basis, to justify the doctrine of salvation by faith (ii. 206), seems to us very strained.

We have left ourselves only room to quote two pregnant sayings. "We cannot hate the highest till we know it. On the other hand, *when* we know it we cannot altogether hate it" (ii. 208). "What is called mysticism . . . is the form under which feeling discounts the future gains of thought" (ii. 291).

It is in the same spirit of superb confidence that Professor Caird, at a time when shallower thinkers are trying to preserve the name of religion by flinging away all its intelligible content, tells us that in "the present age" the development of philosophy "has for the first time furnished us with something like a rational proof of a creed which previously rested almost entirely upon the intuition of faith" (ii. 321). The assertion of the gradually increasing certainty of the dogmatic basis of religion will probably

be deemed by "scientific" thinkers too absurd to answer. And their prudence, at any rate, will be deserving of commendation.

With Christianity the lectures cease, which is perhaps a pity. The reader would have liked to know how such a strange episode as Islam is to be regarded.

We believe that it would be difficult to overestimate the importance of this book. It cannot fail to be of the highest value to specialists. But it may well be destined to work more honourable, because more needed. It may serve, as no English book has yet served, to mediate between philosophy and life.

J. Ellis M'Taggart.

Die Grundbegriffe der Gegenwart. Historisch und kritisch entwickelt von Rudolf Eucken, o. ö. Professor an der Universität Jena. Zweite, völlig umgearbeitete Auflage. Leipzig: Verlag von Veit & Comp., 1893. Pp. vi., 317.

This is to all intents and purposes a new book, for the first edition (published in 1878, and probably little known in this country) " has been thoroughly recast, and while the drift of thought is the same there is little left unaltered in matter or form". It is a concentrated *critique* of the ruling ideas and main practical tendencies of the time, carried out with strict impartiality but with no suppression of personal conviction, and encumbered by only such " learned ballast " as is conducive to the reader's easy progress in attaining the proper point of view. The author's endeavour, in fact, is not to treat exhaustively any of the topics with which he deals, but only to develop principles and theories in sufficient detail to enable a judgment of their value to be fairly formed. The author evidently believes that the profoundest need of the time is not minuter knowledge in special departments, but a clearer comprehension of what the first principles of knowledge really are, and a firmer grasp of practical postulates. Departmental science is a good thing, and historical erudition is a good thing, but each is vain and even frivolous if we have no hold on primary realities, and are so unsure of our spiritual foundations that in the apostle's language we are " tossed to and fro, and carried about with every wind of doctrine ".

The critique of current beliefs takes the form of an examination of various ever-recurring terms, popular or academic. One group of these, first dealt with, are of the widest and most general import—as Subjective and Objective, Experience, *A priori* and *a posteriori*, Development, Monism and Dualism, Law. An examination of terms having closer relation to human life follows—as Individuality, Society and Socialism, Utilitarianism or the Problem of Happiness, Idealism, Realism and Naturalism, Free-will, Personality and Character. Lastly there is a dis-

cussion of the Religious Problem, and an inquiry into the significance of the contrast Immanency and Transcendency. It will be seen that these topics pretty well cover the whole field of current belief and action. The consideration of them is by no means of equal breadth, but even where only a few pages are devoted to a topic, the handling can never be characterised as hasty or superficial.

To understand and estimate one's age, says our author in his very suggestive introduction, is to understand and take the measure of its dominant conceptions. The age reveals itself in the terms always on men's lips, its novel coinage and reminting of old tokens, sometimes also in its silence. The words and phrases are not as a rule *mere* instruments and media of exchange. They condense hypotheses, theories, fixed beliefs. They are more than that, they are indications of emotional preference rising often to considerable intensity. The world approves and condemns by its use or disuse. "For the age believes in itself, only in itself, and cannot endure what contradicts it." And this for the sufficient reason, as our author puts it, that its own special work requires that the ideas reflecting its struggles and experience should displace the legacy of alien epochs. But the relation of current ideas to the past is not to be underestimated. We still look in great part through the eyes of remote periods, and the history of changing thought is often the only key to the faith and hope of the present.

The first terms considered are the fundamental couple—Subjective and Objective. After showing how the import of these terms has changed in course of time, and how the mutations have been motived, Professor Eucken investigates the meaning of the contrast as now commonly understood, and seeks to push the result practically home. The conclusion reached is that while the problem indicated by the correlated words has always been felt as real and radical, the vocabulary of philosophy offers no more striking instance of inadequacy and ambiguity. That there can be no Truth without the distinction is certain, yet every movement of speculation is an endeavour to break down its rigidity. Justifiable dissatisfaction with older definition has been followed up by exaggeration of important aspects, and over-confidence in the attainment of a final solution has been succeeded by a needless humility or despair. The author notes certain present tendencies which he regards as misleading. The recoil from an excessive Rationalism is responsible for a disposition to appeal to Feeling as the final reality. This however is equivalent to denuding Truth of the attribute of disinterestedness which is peculiarly characteristic of it. Not what is pleasing to us, or what we wish to believe is *true*, but what is so far detachable from the series of our private experiences that it may be an object of universal apprehension. This implies that no historical science, psychological or sociological, can afford the basis of Philosophy. Universality

and Necessity, the inalienable marks of Objectivity, are apprehensible by Reason alone. Empirical Psychology must be supplemented by Noology. This however is not to be understood as if the Absolute Idea were to be grasped by an intellectual effort. By no purely intellectual process is truth attainable. In the practical realisation of Humanity's ideals the truth of things breaks through, the ideals themselves which point the way being only so far "subjective" as they are relative to a given spiritual nature. They are not created by human "needs," nor in any sense pathological. The author's last words are "The growing life of the spirit is radically distinct from any translation of reality into mere feeling. It produces by its own activity a new reality, and thereby strives to change the existing situation. Only at the height of such activity has man the full assurance of truth. Progress towards it however is dependent on historical conditions and never attainable through pure conception. An indispensable pre-condition of all movement towards truth is the clear distinction between spiritual work and immediate psychical life."

If in the section on "The Subjective and the Objective" the dangers of an exaggerated subjectivity are chiefly pointed out, in the chapter on "Experience" the opposite tendency to submerge the subjective factor is effectively dealt with. It is not difficult for the author to show that with every attempt to detach the actual world from the perceiving mind the object of knowledge shrinks in content and significance. Nor is the world of modern science more intelligible than that of naïve perception. A "system of Forces, Laws, Relations" is a system of ideal conceptions, conceptions, however, as the professor takes care to remark, that are "indissolubly tied to sensuous actuality". Reality is not exhausted however by the system of Experience. Besides Facts there are Postulates, in a word ideal quantities, which constitute and give a value to experience. This leads the author to insist on the necessity for a *prima philosophia*, a genuine Metaphysic. At the close of the section he laments the unfortunate ambiguity of the term which forms its theme. Its negative indeed it would be hard to find, for only a notional construction of the world, which would be destitute of content, could be styled non-experiential. "To find a place for knowledge in the entirety of life, and to understand this life as a ceaseless endeavouring, this is to admit experience in its widest extent."

The idea of Development rules the present age as no other, and with its general acceptation is consummated the transition from the old to the new order in the system of thought. The immutability and fixedness of Truth, the catastrophic and miraculous in Nature and History, self-evident or reasonable to the ancient mind, have been displaced by a relativism which affirms that Truth must ever be in process of formation, and by a doctrine of Continuity which declares that a single unmediated event would throw the world into chaos. The writer of the present work is

not blind to the immense gain in coherence and inspiring power in a view which connects by close-fitting links the progressive content of the vast time-frame, and substitutes for any external shaping and adapting of things and beings a self-moulding process organically initiated; but still thinks there was a verity in the disparaged theories of abiding truth and reality, which no version of Evolutionism can absorb. "Platonism contains truths as undeniable as Darwinism; a synthesis is called for, which shall at the same time eliminate the error in both and bridge the gulf between them." The author seeks to substantiate this by proceeding to show that the idea of Evolution itself requires the conception of Permanence in the midst of Change. Natural Science itself is impossible without certain timeless forces and laws. Equally in History. "History is no mere picture-book and collection of curiosities." History proper is *comprehended* history, and this means much more than tracing a stream of events from date to date. The bringing of the past into relation with the present presupposes an ability to stand outside both past and present, *i.e.*, a non-temporal spiritual existence. This spiritual existence realises itself in time, under varying outward circumstances, incited to reflexion by special stimuli; but if itself were merely a part of the succession there would be no value or measure of value, in a word no rationality in the world. "In short, the spiritual content of our life undoubtedly unfolds in connexion with history, but it does not grow out of history." The author draws out the consequences at some length, practical no less than theoretical. The weakness of modern Evolutionism is shown to consist in its false estimate of the significance of the Present, which being consciously unrelated to the Eternal loses its real value for the individual, for "no activity possesses worth and character which has not its primary end in itself, its secondary only in its other and future reference, which has not an intrinsic worth and a secure place in the timeless present of reason".

The reader will be prepared by the foregoing for the author's view of the relation of the Individual to Society. That the individual is conditioned on every side by the collective will is clear. That the good of all is a higher good than the good of a private self is only to assert that the value of the individual dwindles in proportion to his detachment from the body politic of which he forms a necessary part. But it is quite another thing to maintain, as a species of Social Ethics is prone to do, that the desires and aims of the community should determine the most strenuous activity of a rational agent. The root of this common error is twofold. The age "knows no inner problems of the individual life, and it is inordinately optimistic in its belief in the efficacy of associated action". In the moral sphere associated action only accomplishes its end if the actors are at once enlightened and self-respecting; if they are merely instruments of a dominant

public opinion there is no assurance that a common good will be realised. We are driven, then, for a standard of worth and the vision of a genuine life-purpose, behind and beneath the visible frame of things. To ignore this demand of moral idealism is in our author's view to build the spiritual home of the future on shifting sand, to drift into an era of short-lived satisfaction and soulless mechanism.

The result reached in the preceding paragraph clearly needs further elucidation, and this is offered in the chapter entitled "Idealism, Realism, Naturalism". That Prof. Eucken is an idealist of a very pronounced type is sufficiently evident, but he takes pains to show that no idealism can claim the attention of the future which does not accept much from realism, that is not in fact a thoroughly reconstructed idealism. "The gaining, shaping, and saving of a spiritual self, a self of course not outside of but in activity, and not from the bare subject but in connexion with the great facts of the world, that must become the soul of our life-task." It is not a merely dynamical idealism, not mere development of force, but a substantial idealism that is required.

It is impossible in this short notice to refer to all the terms discussed, some of very great importance. I will only further direct attention to the final problem—the religious. The growing severance of Culture and Religion is one of the obvious signs of the time. Why is this? Our author answers because "Religion is alarmed for its depth and actuality, Culture for its breadth freedom and pure humanity". The simple juxtaposition of two such ideal powers may be harmless in quiet times, but critical situations are sure to arise when the equilibrium of indifference is disturbed, and human progress is impeded by conflict and loss of valuable truth. That Religion, freed from all local and temporal accidents, is no foe to culture, rather a condition of the highest culture, the author has no doubt. But then old claims must be renounced. Its superiority to the secular life concerns its substance not its forms. These are common to it with the world it seeks to dominate. The essence of Religion is not a doctrine, or system of special conceptions, it is a comprehensive spirit, a vitalising principle. It is realised through the expression of a deeply-grounded personality. It is anything but "subjective," "or mode of feeling". For "the more through all experiences and external shocks we are thrown back upon the inner life as the Archimedean point and have from this centre to unfold our world, the more necessary is the surmounting of every merely subjective life-form, the elevation of bare sensation to full active life, the progress from the mere punctuality of natural existence to a spiritual world inwardly present to the individual, but not produced by it. To this point we ever come back in all our leading problems, and with it we close our inquiry."

In a brief summing up the author states what he regards as the main defects of the time, and the indispensable means to over-

come them. With ever-increasing accumulation of knowledge and variety of activity we are, he considers, growing poorer in substance and shallower in heart and life. "Looked at as a whole the Present exhibits much reflexion but little intuition, much knowledge, but little productivity, many interests but little force, much elasticity, but little steady prosecution of independent lines of thought, in a word much talent, but little character." The outlook is dark enough, but not altogether hopeless, for the contempt itself of great and inspiring ideas will in time make the need of those ideas intensely felt.

While sympathising with the main drift of the book, and acknowledging the value of so powerful a defence of the foundations of a stable and serious life, the present reviewer cannot resist the feeling that the author's grave apprehensions are in a measure due to a survey of too narrow a range of fact. In this country at any rate, with all the lack of insight into the full meaning of life and the triviality of much that absorbs the interest of masses of men, there is a strain of high purpose by no means rare, which is far from ineffective, although so little conscious of its own profounder meaning. It remains too, perhaps, an open question whether the Professor's idealism has yet reached a form which can be thoroughly assimilated. There may possibly be some readers who will find it easier to *feel* with the author than to *think* with him. In any case the book is one which all who are concerned to understand the bearings of some of the profounder controversies of the day will find suggestive in a high degree.

W. C. COUPLAND.

La Pathologie des Émotions, Études physiologiques et cliniques. Par CH. FÉRÉ, médecin de Bicêtre. Paris: F. Alcan, 1892. Pp. 608.

This latest product of M. Féré's diligence attains the often coveted position of an encyclopædia on a special subject that is very readable from end to end. He has collected not only from modern France but to a certain extent also from other times and lands a large mass of carefully arranged anecdote and description bearing upon the emotions natural and morbid, and he has interpreted the data relating to morbid states with the zest of an eager doctor who has found a branch of what he considers medical science which has been little explored and into which he can throw all his energies. M. Féré throughout regards the world with the eyes of a doctor and a teacher of the Physiological Laboratory, and this his last work, on the Pathology of the Emotions, has little to do with pure Psychology, but is rather, as he does not hesitate to call it, a collection of Physiological and Clinical Studies. "Its object," he says,[1] "is to determine

[1] Pref. p. vii.

as well as we can the physiological conditions of the emotions, and to show that these conditions are identical with the bodily states which are brought about in men by the action of the surrounding physical agencies." There is a very candid disdain of anything but physiological conditions and physical agencies, and it is maintained to the last. Psychology, in fact, is treated only as a special branch of physiology.

Granted such a starting point it is only natural that M. Féré should proceed at once to the consideration of the more obvious psychical effects of some of the inevitable surrounding conditions of human beings, such as air, light, sound, &c. Air is comparatively innocuous, still a sufficiency of oxygen is a necessity, for without it we get an intoxication by carbonic acid which involves, it is interesting to note, a retroactive amnesia, and will soon lead up to death; it is from the same insufficiency (P. Bert) under conditions of low barometric pressure that we get "mountain sickness" and its attendant uncomfortable emotions. The effects of the electrical conditions of the atmosphere are practically unknown though they are often spoken of as producing excitement and depression. Light has a stimulant effect on the muscles, especially the red end of the spectrum. Three cockchafers in red light can pull as hard as four cockchafers in white light (Féré), so that there seems some physiological basis for the association of happiness and exaltation with the red end of the spectrum such as is shown by phrases like seeing things "in a rosy light."

The perception of two different kinds of sensation when only one sense-organ is stimulated is a complex subject first discussed in 1812 by Sachs, an albino doctor at Erlangen, under the title "audition coloreé," the perception of colour associated with the stimulus of sound alone. Since then Hilbert has observed "olfaction coloré," and Féré has found "gustation coloré". During the last few years the subject has been shown to have further branches by the careful investigations of M. Grüber of Buda-Pesth. At the request of the Paris International Congress of Physiological Psychology in 1889 M. Grüber pursued his researches further, and his report was published and discussed in the second International Congress of Experimental Psychology in London last year.[1] The physiological and psychological interpretation of the phenomena Grüber admits to be still very puzzling; and M. Féré does not help us much by suggesting[2] that in those who feel these associated sensations the effect of a sound stimulus must be so exactly like the effect of a colour stimulus that when they receive the stimulus of sound alone they construe it as being both of sound

[1] *Proceedings of International Congress of Experimental Psychology.* London, Aug., 1892, pp. 10-20.

[2] P. 36.

and colour. But if this were the case then we should also expect that a stimulus of colour alone should be interpreted as both colour and sound; and this, M. Féré admits, is very seldom or never the case.

To both the hurtful and curative effects of the emotions M. Féré devotes much attention, and on these points makes some interesting remarks. That the emotions act on the body, more by their effects on the circulation than by anything else, is no new thesis, but M. Féré is developing some new branches of it. That the heart may be stopped for a few seconds, and that there may be localised flush and pallor of the skin, owing to almost any strong emotion, whether it be joy, anger, fear or pain is a matter of common observation; and that there may be many changes of nutrition due to vaso-motor disturbance is a point easy to establish. The skin is particularly easily affected; passion and pain may produce a sweat that is truly hemorrhagic (Parrot); and the scientific world is obliged to admit that in the stigmata of Louise Lateau the blood vessels were really broken, and not broken by anything else than an emotional state as cause. In a shipwreck Follain tells us that the pilot was covered in an hour with pustules from his fear; and the doctor sees many *dermato-neuroses*, such as nettlerash, herpes, pemphigus, vitiligo, &c., from the *choc moral*. And there are more serious cases of function disturbed by emotion, which very possibly originate from the effects of vaso-motor change on various organs. There are many cases of temporary glycosuria from excitement, temporary diarrhœa from fear, and a notable decrease of the secretion of saliva (xerostomia) from chronic irritation. In the case of Diderot there was a noteworthy instance of jaundice from the sight of an execution. The effect of the emotional state of the mother on the child to which she is giving birth is more difficult to trace. It is however often supposed that the morbid emotions of Hobbes were due to the fright occasioned by the Spanish Armada from which his mother suffered in 1588 when she gave him birth; and that it was for this reason that, throughout his life of ninety-two years, he was in constant childish terror of the dark and never dared to pass a night without a night-light. It is a common saying that those who are in fright of an infection are the most easily infected; the fact is supported by good authority (Hack Tuke), and M. Féré explains his reasons for adopting this view in somewhat elaborate detail.[1] The infectious matter, whether it be bacillary or not, when it is introduced into the blood may be entirely eaten up or put an end to by the white corpuscles of the blood, and this process of phagocytosis will be complete and effective in proportion to the number and energy of the leucocytes which are there to do the work. Their number and energy may depend largely on the

[1] Pp. 264-6.

blood supply and nutrition of the capillaries of the part, which, to a large extent, may be under the influence of the emotions acting through the vaso-motor system. In the timid or frightened subject there is a poor supply of blood with its leucocytes in the capillaries, and a poor resistance, consequently, to the infection. This may doubtless seem at first sight far-fetched, and it would require very careful support on many points against sceptical critics; but some original experiments which M. Féré himself has made have an interesting bearing on such a question. Pasteur has shown that under some unfavourable conditions such as cold there is less power than normal in the leucocytes both for keeping themselves alive and for absorbing other cells; his pupils have tried to carry this inquiry further and to prove such a lessened capacity under many circumstances. M. Féré has tested this *chimiotaxie* or vital power on the two sides of a dozen hemiplegic patients by vaccinating them on both sides, the paralysed as well as the normal; he found that out of these twentyfour points of vaccination only three "took," or in other words, were decidedly infected, and these three were all of them on the paralysed sides. It was a somewhat novel experiment, and he takes it to show the greater liability to infection in a point of local weakness. In the same way a baby with infantile paralysis of one leg only, when vaccinated on both sides developed its pustules on the paralysed side only. But many more such experiments are wanted before they can be claimed as a strong support to any theory.

Emotions may lead up doubtless to curative results also. *Cor laetum benefacit morbis* was an aphorism which Galen had inherited from Hippocrates. Chorea may be cured by emotional conditions just as readily as it may have been caused by them. A child may be startled and frightened into a serious attack of chorea, and then when it is taken to a hospital be so much interested and absorbed in watching an accident as to lose the choreic symptoms. A man in melancholy may be deliberately intending suicide and go into a shop to buy a pistol to carry out his intention, but a quarrel about the price of the pistol may completely alter his mind and cure him of his suicidal intention and his melancholy as well (Esquirol). Intellectual activity, or rather absorption, may blunt any emotion; as in the case of Gauss when he was absorbed in mathematics, for though his servant brought him word thirteen times that his wife to whom he was devoted was very ill and at the point of death, he only answered: "Tell her to wait till I come".

As an incident in many pathological conditions of the mind M. Féré chooses Hallucination as one which is worthy of consideration in more detail than others. He includes under the term: "States of consciousness characterised by perception without an object;—a perception, that is to say, which is not the result of synchronous peripheral stimulus of the sense whose perceptive

centre seems to be affected ".[1] In the case of a hallucination of sight in a waking state, Sir David Brewster showed many years ago that each line or figure in the scene can be doubled by gentle pressure on the side of the globe of the eye of the percipient, and modern psychology explains this by pointing out that it is probably due to the doubling of the *point de répère*. The essential analogy between the hallucination and ordinary perception is often evinced by the change in the size of the pupils in watching a retreating or approaching figure, and by such other external signs as the folding or unfolding of wrinkles of the skin which accompanies the lesser movements of the eye. Where the hallucination is of hearing there are fewer minor movements to testify its genuineness, but the attitude, expression, and sometimes involuntary movements of the tongue may show that the percipient is attending to something he thinks he can hear. But in this and other forms of hallucination M. Féré takes comparatively little interest in the scene and subject matter of the hallucination, and he has not been inclined to follow up the recommendations of the Paris International Congress of Experimental Psychology in 1889 that a serious attempt should be made to carry out a Census of Hallucinations over a sufficiently large number of persons in good health to make it possible to come to some more adequate generalisations than are known at present as to their frequency, character, and causes.

On the question of whether any hallucinations can be telepathic in the sense of being derived from causes otherwise unknown to the percipients and beyond the range of their known senses, M. Féré declines to give any opinion, and prefers to remain, as he says, in Socratic doubt.[2]

To follow out the chapters which M. Féré devotes to the physical conditions of the sensory organs and the medical treatment of their morbid states would lead us too far into anatomy and clinical medicine. In turning back, however, for a moment to the general outcome of this most comprehensive treatise we cannot help feeling somewhat disappointed that its author should seem to feel so little sympathy in realising any other point of view than his own in the interpretation of his wide knowledge. "Le but de ce travail,"[3] he writes, "est de determiner autant que possible les conditions physiologiques des émotions, et de montrer que ces conditions sont identiques aux réactions somatiques qui résultent de l'action des agents physiques à l'influence desquels l'homme est soumis. On y verra que les émotions sont des états somatiques qui s'accompagnent d'états de conscience que l'on peut voir se développer en conséquence d'excitations physiques." He does not shrink from avowing a somewhat crude materialism when he claims these physical stimuli as the cause of the con-

[1] P. 382. [2] P. 462. [3] Pref. p. viii.

sciousness that is associated with emotion; and he is confident that experiment is the only means of advancing psychology.[1] However, we gladly acknowledge our great debt to M. Féré for much material that cannot fail to be deeply interesting to any student of physiological psychology.[2]

A. T. MYERS

[1] P. 396.

[2] It must be added that the value of his work would have been considerably increased if more attention had been paid to plan and arrangement. As it stands it deserves to be called miscellaneous and shapeless —bearing more resemblance to a rough note-book than to a finished work. This is an extraordinary defect in a French book.

[G. F. S.]

VIII.—NEW BOOKS.

Logic, Inductive and Deductive. By William Minto, M.A. (University Extension Manuals). London: John Murray, 1893. Pp. xii., 373.

The late Professor Minto's work on Logic forms one of the most interesting of the University Extension Manuals. In accordance with the general plan of the series, the author has made it more than a text-book; he has, to use his own words, "attempted two things that at first might appear incompatible". One of them is to put the study of logical formulæ on a historical basis; the other, to increase the power of Logic as a practical discipline. As to the result, opinions are not likely to differ: we are presented with a clear account of all that is valuable in the traditional Logic, brightened at every step by a commentary which furnishes an explanation of the *raison d'être* of each rule and technical term, and a simple statement of its origin and history. At the same time, the whole treatment bears the impress of the writer's enthusiasm for logic in relation to everyday life; there is not a single "dry bone" in the book; even the most familiar friends among scholastic technicalities appear with new faces, suggesting everywhere new applications.

As a Manual, the book is fairly complete. Book i. on the Logic of Consistency—(there seems to be no reason for the order given in the title)—occupies two-thirds of the whole. In it the arrangement departs a little from the traditional order of terms, propositions and syllogism; the four parts are—the Elements of Propositions, Definition, the Interpretation of Propositions, and the Interdependence of Propositions. Of these, the first chapter of Part i. deals with general names and allied distinctions: the second with the syllogistic analysis of propositions into terms. The greater portion of this chapter, which includes a discussion of Modality, undoubtedly belongs to Part iii., and should come there. Part ii., on Definition, takes the reader back to Terms, and the double transition is somewhat confusing. Part iii. deals rather fully with the opposition and conversion of propositions; and Part iv. gives a full account of the Syllogism and its figures and moods, and includes excellent chapters on the Utility of the Syllogism, on Fallacies, and on Formal or Aristotelian Induction.

In Book ii. Induction as the Logic of Science is excellently treated: the author throughout has his eye on Mill's Third Book, and the latter's partial confusion of Formal Induction and Induction as the Method of Science is well explained. Chapters iii.-vi. form an exposition of the Five Methods, under the name of Methods of Observation; chapters viii.-x. deal with supplementary methods of investigation,—the maintenance of averages, the measurement of probability, and inference from analogy. Of the other chapters, the second, on the ascertainment of simple facts in their order, is an interesting account of the "besetting fallacies" of observation; chapter iii. explains very clearly the meaning of Causation, and chapter vii. deals with Explanation, the plurality of Causes, and Hypothesis. It is a pity that the last-named word is not expressly defined.

But the most important matter in the work lies in the account of the evolution of the various logical forms and methods, given in the Introductions and passim, and the discussion of the fundamental principles and presuppositions of knowledge. The origin of the Syllogism is traced in the general Introduction; that of Induction, and more especially of

Mill's Induction, in the introduction to Book ii. In both, the views are a little extreme; with the Posterior Analytics before us we should hesitate before agreeing that Aristotle's logic was merely designed for the accomplishment of his pupils in "the popular game of Question and Answer," or "Yes-and-No Dialectic". The statement seems applicable only to the *Topics*. Professor Minto is also rather hard on Francis Bacon: his method is not altogether to be judged by his own inability to apply it.

Of the style of the whole work it is unnecessary to speak. The author's name is guarantee enough, and the combination of simplicity with epigrammatic terseness is well worthy of his reputation.

It is perhaps to be regretted that no list of authors is given. Many students would be glad to have the names of the works to which he refers indirectly. Some are mentioned in the notes, but by no means all.

A Manual of Ethics. By J. S. Mackenzie, M.A. London: W. B. Clive & Co. (Univ. Corr. Coll. Press), 1893. Pp. xxvi., 339.

In writing this book Mr. Mackenzie has had to solve two difficulties. In the first place he found himself called upon to write a handbook in a Tutorial Series, while at the same time he resented (as who would not) the limitations which this task implies. He has determined, and I think rightly, to let the tutorial handbook fall out of sight and has produced instead an earnest and striking contribution to the ethical literature of the time. The second difficulty arises from the nature of the science itself. On the one hand it is claimed that Ethics ranks as a human achievement with the highest of the abstract sciences. On the other hand, it is maintained, and is indeed obvious, that Ethics has a more direct bearing than the greater number of such sciences, on the problems of human life. The writer in Ethics has thus the choice before him of confining himself to the strictly scientific discussion of his subject or of expanding upon the relation which his analytic conclusions bear to the constructive aims of practical life. Whether Mr. Mackenzie has been equally successful in dealing with this second difficulty is a question on which I shall reserve a word or two for the latter part of this note.

Meantime we have to recognise in this book the qualities of authorship with which Mr. Mackenzie has familiarised us in his "Introduction to Social Philosophy". There is the same ripe scholarship, the same copiousness of reference, which, although sometimes possibly embarrassing to the junior student, is undoubtedly of the highest advantage to the more experienced. There is the same sympathy with opposing views and the manifest resolve to do justice to the truth that they contain. There is the same abundance of apt literary illustration. Indeed, if there is a complaint to be made in this respect, it is rather that a writer himself so epigrammatic (for example, in the delightful definition of Monasticism as: "an undesirable form of the Division of Labour") and so suggestive (as in the vigorous treatment of Moral Reform, p. 243 and chap. xv.), should so frequently have recourse to the words of others. But the fault, if it is a fault, is on the right side. If the function of the man of culture in modern times is as Matthew Arnold maintained, "to humanize knowledge and make it efficient outside the clique of the cultivated and learned," Mr. Mackenzie has certainly succeeded in humanizing Ethics as in his former book he humanized Social Philosophy. Of more special interest to the student of Ethics are the admirable treatment of the "Freedom of the Will" in chapter viii.; of "Ethical

Hedonism," p. 97 foll.; the account of the conflict of motives as between different "universes of desire" rather than between individual desires, the real strength of a desire not depending "on its own individual liveliness or force but rather on the force of the universe or system to which it belongs" (chapter v.); and in the second part of the book the stress laid by the writer on the essentially modern duties of reflection upon our Moral Ideals on the one hand and of forwarding social progress on the other.

It would be strange if in a book embracing so much and professing so little (its design is "to give in brief compass an outline of the most important principles of ethical doctrine so far as these can be understood without a knowledge of metaphysics") many important subjects should appear to the serious student to be touched on too lightly, while minor errors have crept into the discussion of less important ones. Thus the question of the standard of higher and lower forms of Desire and Will is treated very cursorily on p. 87. "The wider universe" undoubtedly is judged higher or better than the narrower. We approve of the man who has wide aims, though in the pursuit of them he developes a one-sided and defective type of character. But besides width or comprehensiveness, internal harmony seems to be a second desideratum. We approve of the life of harmonious self-development even though it is not marked by strenuous effort in any particular direction. A discussion of these two ideals and of the possibility of reconciling them in a higher, would, we think, be required to complete this section. But most dissatisfaction will, in this respect, probably be felt with the treatment of Art and Morals in chapter xvi. The writer does not seem to move here with the same ease as in other parts of his subject. The allusions to the literature of the subject are comparatively meagre. One is specially struck with the absence of all allusion to Schopenhauer who might be regarded as the high priest in our time of a view similar to that hinted at on pp. 300-310. Some of Mr. Mackenzie's general remarks on this subject seem, moreover, to want his usual insight. "Poets and artists are not generally supposed to be conspicuous for the excellence of their conduct," reminds us of the schoolboy's statement that: "Shakespeare like *all* great poets fell into debt". One or two minor points in the first part of the book seem to require reconsideration. Aristotle would certainly refuse to accept the definition of "wish" as an "effective desire," while common-sense would object to the *pleasures* of a good conscience being ruled out of court and conscience being defined as merely the "*pain* accompanying the violation of moral principles". It is doubtful also whether Dr. Sidgwick would admit the relevance of the criticism on pp. 105-6.

But this is trifling when there is a more serious matter on hand in Mr. Mackenzie's whole conception of the nature of Ethical Science. In the sentence already quoted from the Preface as to the design of his book Mr. Mackenzie tells us that he aims, not merely at giving an outline of ethical doctrines, but at showing "how these doctrines may be applied to the practical guidance of life". Similarly, on p. 21 he says of the *Science of Ethics*, that he regards it "as instructing us with regard to what we ought to do". With some slight apology for so strong a statement in chap. i., he nevertheless repeats emphatically in chap. ix. that it is the task of ethics "to furnish us with practical principles". Finally, this view is summed up in the classification of Ethics as one of the "normative" sciences, by which is meant "the sciences which lay down laws or rules". Now, it will be better to state at once that we cannot help thinking that there is here some confusion. Ethics is undoubtedly normative in the sense in which Logic and Æsthetic are. It deals with

the standard of judgments of right and wrong, good and bad, as Logic may be said to deal with the standard of judgments of truth and falsehood, Æsthetic with judgments of beauty and ugliness. It is further true that the Study of Ethics may be of great practical importance. At times in the history of the race (perhaps at the present time for special reasons) it may be so in a peculiar degree. Against uncritical attempts to treat Ethics as a department of biology or to solve the problem of life with one-sided formulae a thorough-going analysis of moral judgment is our only resource. But to admit this is one thing, to maintain that it is part of the task of the writer on the science of Ethics to lay down laws or rules of life in even the very limited extent to which Mr. Mackenzie confines himself in his more guarded statements is quite another. That there is a place for an intermediate or normative science between Ethics as the science of the first principles of moral judgment and the practice of the "art of life," just as it might be claimed that the science of therapeutics stands between the natural sciences of Chemistry, Physiology, &c., and the art of healing, I am not prepared to deny. The existence of an Ethical literature, which is more occupied with suggestions for the moral life than with the analysis of moral judgments, of Ethical Societies and of books on the moral training of children, seems to suggest that such an intermediate or normative science is at any rate in the gristle. But it would be a mistake to confuse the task of the moral philosopher, which undoubtedly is, as Mr. Mackenzie says, to bring the human end or standard of moral judgment to clear consciousness, with the task of the ethical writer, which is to make this clear consciousness prevail and turn it to practical account for the guidance of life. I do not accuse the author of failing to make this distinction (he alludes to it unmistakably in the note at the end of chap. xii.), but he is in general so impressed, and I think rightly impressed, with the importance of the latter function that he permits it in his own writings somewhat to overshadow the former. Mr. Mackenzie has shown here and elsewhere that he possesses the qualifications necessary to do good service in both departments. He has already given excellent proof of his power of dealing trenchantly with the deeper and more abstract problems of Moral Philosophy. He has shown too how familiarity with this line of study may be made the starting point for stimulating discourse on the problems of practical life. We should like merely to suggest the danger of misleading the student on the important question of the real nature and scope of the science of Ethics which may arise from the attempt, otherwise harmless and in Mr. Mackenzie's case we think successful, to combine these two functions in an introductory text book.

J. H. Muirhead.

The Pursuit of Happiness. By D. G. Brinton, A.M., M.D., LL.D. Philadelphia : David M'Kay, 1893. Pp. 292.

A brightly written book deserving to be read by students of Ethics and Psychology, though it is distinctly popular rather than scientific. The author regards happiness as coincident with self-realisation. It is not to be regarded as a quantitative aggregate of pleasurable feelings. It is the "increasing consciousness of self". "Rightly understood, nothing is so admirable as self-love ; but love yourself, not for what you are, but for what you may be." The book is divided into four Parts. The titles of these are—"Happiness as the Aim of Life," "How far our Happiness depends on Nature and Fate," "How far our Happiness.

depends on ourselves," and "The Consolations of Affliction". Dr. Brinton regards happiness in the sense defined as "our being's end and aim". The "moral life is but a means to an end". It is "nothing more than the conformity of the individual to the type of the society in which he lives". There is a refreshing courage in this view. The book is full of telling epigrams and aphorisms.

La Recherche de L'Unité. Par E. DE ROBERTS. Paris: Ancienne Librairie Germer Baillière et Cie., 1893 Pp. 230.

So far as we can disentangle it from the vague polemics which disfigure its exposition the aim of this work seems to be the reduction of knowledge and reality to the logical genus and species. Not the genus and species of science, based upon the discovery of "real kinds," rich in fruitful and inexhaustible differences, but a genus and species which can banish, or at any rate ignore, these differences, and be as barren as the Tree of Porphyry itself. The manner in which this result is to be achieved is indicated in the chapter on "L'irréductibilité interscientifique". There we are told that though we cannot yet reduce, say, organic existence, to a mere subordinate species of mechanical existence, yet the difficulty is one of fact only, and not of logic; it is conceivable that the chemist will one day succeed in producing a living cell, and the difficulty will at once disappear. It is perhaps doubtful whether this distinction between difficulties of fact and difficulties of logic is a desirable one, or whether it does not rather intensify the dualism which M. Roberts is endeavouring to overcome, but out of it arises the whole of the discussion before us. The next step is to suppose that Science has successfully proved the impossibility of reducing real kinds to species and genera. This is the crux of the problem which Mr. Roberts has set himself, and he solves it by postulating an absolute equivalence between the "groups of properties" (*e.g.*, life and movement) which prove to be thus mutually irreducible. The grounds which warrant the assumption that concepts having no common element are synonyms, and the facts represented by them therefore equivalent, are not made sufficiently clear to be convincing.

The motive to this process is to obviate the necessity of any hypothetical summum genus, or transcendental unity, by which to hold together the different facts of our experience. An important part towards getting rid of our superfluous distinctions is played by "la loi de l'identité des contraires surabstraits"; and in the chapters on quantity, movement, &c., the process of reduction is partly carried out. M. Roberts's psychology is evidently an indispensable part of his theory. His animosity towards other psychological views makes it difficult to gather any very clear idea of his own, but if we are not mistaken he regards consciousness as one of the ultimate synonyms, and as thus equivalent to matter, movement, &c. Much stress is laid upon the importance of representing the Sciences as a system of Concentric Circles of which psychology is the innermost and mathematics the outer; this arrangement corresponding with degrees of complexity of the facts studied, space and time (equivalent notions) affording the simplest relations, including all others.

Perhaps the most suggestive chapter is that on the concept of limit, which contains an interesting discussion on the question of the relativity of knowledge.

La Causalité Efficiente. Par G. L. FONSEGRIVE, Professeur agrégé de philosophie au Lycée Buffon. Paris: F. Alcan, 1893. Pp. 168.

According to the author, production is the essence of Casuality (p. 10).

The action of any productive agency is a cause, and the creation resulting therefrom is an effect. As typical illustrations of the relation of cause to effect, M. Fonsegrive adduces architect and edifice—upholsterer and furniture—author and book. This conception of Causality M. Fonsegrive proceeds to analyse in three chapters, the contents of which are respectively entitled: I. The origin of the idea of Causality; II. The principle of Causality, its origin, its nature, and its consequences; III. The nature of Causality. Our author notices and rejects Hume's attempt to resolve the notion of Causality (p. 14) into the three elements of contiguity, succession, and frequency-of-conjunction-in-phenomena. M. Fonsegrive finds the source of the idea of Causality in the mental attitude of effort, realised in the act of attention, energy, or inhibition—this is the doctrine of Maine de Biran. In chap. ii. our author proceeds to examine the four formulas in which he says the principle of Causality has been usually embodied: 1. Every effect has a cause. 2. Everything that is moved, is moved by something else. 3. Nothing comes from nothing. 4. Everything that begins to exist has a cause. Of these, M. Fonsegrive rejects the first, third and fourth as tautological or unmeaning, and considers that the second is better replaced by Stuart Mill's dictum, Causality is universal, *i.e.*, every phase of existence is efficient and sufficient for the existence of every other. All nature therefore is a related and mutually implicated whole; but our author maintains that this doctrine only embraces material, not efficient, Causality. Hence, it is clear that the scientist and metaphysician use the word Cause in totally different senses. M. Fonsegrive adopts the point of view of the metaphysician, taking Kant as the best exponent of the idea of efficient Causality, which M. Fonsegrive regards as springing from the mutual play of apperception and perception, the *ego* and the *non-ego*. In chap. iii. the author distinguishes three modes in which the Causal process operates: 1. Causality may be a relation between two immaterial substances. 2. A relation between an immaterial and a material substance. 3. A relation between two material substances. In each of these cases a part of the energy constituting the existence of the cause passes over and is incorporated with the existence of the effect. The *brochure* concludes with a criticism of this doctrine, and the author sums up with an eloquent exposition of the ancient idea of the formal cause which he considers is the actuating principle of nature, implying intelligence, volition and agency.

De La Division du Travail Social. Par ÉMILE DURKHEIM. Paris: Ancienne Librarie Germer Baillière et Cie., 1893. Pp. ix., 471.

This is not, as might be expected from the title, a new work on the economics of industry; but an ethical treatise in the course of which the author aims at determining scientifically the relation between the personality of the individual and the solidarity of society. For the apparent conflict between the two he finds the ultimate solution in that aspect of social organisation which is commonly known as Division of Labour. The suggestion that the Division of Labour may be a moral as well as a natural law leads to a discussion on the nature of Morality, of which M. Durkheim considers Law to be the authorised exponent.

The argument of the treatise is based upon the conception of two phases of social solidarity corresponding to two kinds of Law—repressive and restitutive. The first phase is segmentary, and is represented by the horde, which is composed of homogeneous units and develops into the class, a system of homogeneous segments. The characteristic feature of this phase of solidarity is that it is based upon similarity of parts rather

than differentiation, and much weight is laid upon the existence of a "common consciousness," by which at this stage the individual consciousness is swamped. The representation of criminal law as the mechanical reaction of this common consciousness against acts which offend against it gives rise to an interesting theory of punishment, according to which its function is neither deterrent nor retributive, but merely to preserve intact the social consciousness. The further description of the individual consciousness as developing *out of* this social consciousness prepares the way for an explanation of the existence of those altruistic tendencies which have proved so puzzling to some moralists; they are remnants of the original and fundamental unity of society which still holds a shadowy, subterranean sway over the developed individual.

It is perhaps rather difficult to get any satisfactory conception of this social consciousness, which—if we understand it aright—precedes, and yet is composed of individual consciousness. It accompanies the segmentary phase of solidarity, and so long as this persists the individual cannot develop. Only as it gives way, first to a territorial, and then to a "professional" organisation, constituting the second or organic phase of solidarity, does the common consciousness loose its hold upon the souls of men, and permit them to become independent forces. This change in the form of solidarity is brought about by mere pressure of numbers ("division of labour varies directly with the volume and density of the society"), which necessitates a more intense struggle for existence, and therefore a greater differentiation of function. Some interesting discussion on heredity and the increasing mobility of mankind illustrates the diminishing hold of the past over the present.

A striking point is made with reference to psychology in the argument that, inasmuch as the greater number of psychical phenomena are derived from the social life and not from organic causes, mental life cannot be regarded as the mere efflorescence of physical life. Moreover, it is maintained that social facts are not the simple development of psychical facts, but the latter are to a large extent the prolongation in the individual consciousness of the former; hence, being effects of life in a community, they can only be explained by reference to the nature of that community.

The third book discusses some abnormal manifestations of division of labour, and explains them as due to incomplete organisation. These being cleared out of the way morality is defined as that which tends to promote solidarity, and compels men to recognise and act upon their mutual dependence. As a powerful force in this direction Division of Labour is therefore a moral law, and one which serves both to develop individuality and to promote solidarity.

Les Luttes entre Sociétés Humaines et leurs phases successives. Par J. Noricow. Paris: F. Alcan, 1893. Pp. IV., xxxiii., 752.

Without prefatory word M. Noricow dashes at once into the wide arena of the "struggle for life," and therein labours till he has wrought a bulky sociological treatise as one volume of the *Bibliothèque de Philosophie Contemporaine*, published by Félix Alcan. He views all social movement, including that among animals, under the aspect of struggle for self-preservation—the struggle being, immediately, in order either to absorb or to expel an obstacle—and of its correlate, association, or co-operation. "The universe is a boundless field, where perpetual battles are being waged and where alliances are concluded every instant." Out of strife emerges association, and association, the elemental form whereof is

juxtaposition—(as Clough said: "Allah is great, no doubt, and Juxtaposition his prophet")—itself constitutes microcosms in which proceed struggles of a modified character. The resultant of all this strife, viz., adaptation to environment, may be epistemologically expressed as a juster conception of things as they are, the suppression of contingent delusions of space and time, an ever greater concord between subject and object. Whence comes happiness.

The law (*procédés rationnels*) of social struggle is that of gravitation, viz., accelerated movement. (At the very outset the author lays down that "everything not founded on natural science is built on sand"). Acceleration is not only physical: it is also psychological, as may be seen in the acquisition of secondary automatic actions; and sociological, as may be seen in the rapid development of an artistic epoch when nearing its meridian. What we call Progress is accelerated adaptation. Strife is co-eval with life, but strife inevitably tends to human progress, because no weapon proves in the long run so efficacious as Intelligence. "What we call Justice is nothing else but the application of the principle of the survival of the fittest" in the effort "to cause the more intelligent to prevail and to eliminate the less intelligent". Modern politics is still based on a series of metaphysical abstractions, contradictions, inconsequences and routines, its best ideal a *statu quo*, a stable equilibrium. But man's ideal should be, not a paradise of calm, but the transforming all conflicts into *intellectual* struggles, by means of honourable strife and courteous procedure; not immobility, but intense movement, ardent struggle, victory of the better realised with the maximum of rapidity.

Such are some of the leading ideas in this fiery and voluble yet simply written work, which in its examination of the different kinds of struggles amongst human groups, of their dynamic laws, and of the nature of human "alliance" is not hastily optimistic, and contains much that is suggestive along many lines of philosophy. In his concluding chapter on "Science and the Future," he is fain to conclude, Spencerian as he is, with regard to the proper functions of the state, that the one class which "bears in its loins the future of humanity" are the Socialists. He holds up to the reproach of "the classes" the Erfurt (1891) programme and the splendid advances which the feeling of solidarity amongst labourers is making towards international federation.

La Constituante et le Régime Représentatif. Par GUILLAUME DE GREEF. Brussels: G. Lebèque et Cie, 1892. Pp. 338.

There is much in this book which savours rather of the political pamphlet than of the philosophical treatise, and which could only be appreciated by an adept in Belgian politics. We gather that the author is dissatisfied with the constitution of his country, that the Executive is too despotic, and the legislative body not truly representative, and that "the incoherency of their representation and the confusion of their political discussions are only equalled by the convulsive and epileptic state of all their social activity."

To remedy this disastrous condition M. de Greef proposes a new constitution based upon a representation of interests, and the present volume appears to be the answer to a challenge to show the practicability of such a scheme. In the chapter on the "Modern Theory of the State" we find it laid down that the perfect representative system is the perfect representation of interests, which would lead to the most thorough deliberation, which again would produce the most appropriate and therefore the most just, laws. The classification of interests to be represented is based upon a curious tabulation of social functions, and, all social

functions being equivalent, all are to be equally represented—even down to that of "les indigents," inasmuch as their misfortunes give them the more need of a voice in the government of the country. Perhaps, however, this view of the claims of pauperism as a social function is rather theoretical than practical, as M. de Greef does not provide a special article for it in the scheme which he propounds in the latter part of his book. The population of Belgium is reviewed, enumerated, and classified according to its functions; and to each function is assigned a certain number of representatives. To Agriculture, 60; to Industry, 54; to Commerce, 54; to Art, 40; to Science, 46; to Law, 42; giving a total of 296 Representatives. As to the function of this body itself we are not clear; apparently M. de Greef is uncertain whether it is to act alone, or in conjunction with another chamber, but he anticipates its ultimate development into a permanent Referendum.

The philosophical aspect of this scheme consists in a final elimination of the absolute (*i.e.*, the ancient forms of classes and castes) for which the way is prepared by party government. An attempt is made to show the development of representative self-government by a preliminary survey of political evolution from the beginning of history, but the chapter devoted to this purpose consists only of nine short pages and is too brief to be useful. Various philosophical theories, such as those of Montesquieu and Rousseau are glanced at, and short accounts are given of the schemes of St. Simon and Fourier. The present constitution of the Belgian Government is also described and criticised.

L'Expression des Émotions et des Tendances dans le Langage. Par B. Bourdon, Docteur ès Lettres. Paris: Félix Alcan, 1893. Pp. 371.

M. Bourdon describes his own work as one 'qui cherche à poser des principes plutôt qu'à résoudre des questions de détail,' from which point of view it must be pronounced a failure. Its main object, the formulating of principles, is precisely what we should have selected as its weakest point. On the other hand, it abounds in elaborate statistics, and there are not a few sound observations (original and selected) on 'questions de détail'.

The scope of the work is professedly psychological, but, as the title shows, it deals largely with philology, and frequently trenches on psychophysics, as, for instance, when we have the result of some interesting experiments on pitch and rapidity in speech. The author deserves considerable credit for having grasped the interdependence of the three branches of study, and he has failed chiefly, if not entirely, from being premature. This would be so if he were profoundly acquainted with each of the three, and it must be confessed that he is not. A brief outline of his treatment is this: the emotions and their relation to speech are first considered; then the elements of spoken words, which the author makes intensity, pitch, quality, duration, and pause. Next we have these elements taken in combination or rather in succession. This occupies the larger part of the book, which concludes with chapters on useless parts of speech, Categories, Verse, and Writing.

There seem to be two reasons for the inconsequence of this treatment, the one is the difficulty which met M. Bourdon almost at the outset, and which he plainly states. This in brief is that the muscular actions which produce speech are not the direct outcome of the emotions which are expressed by them, and consequently any attempt to associate certain classes of consonants with certain mental conditions must fail. After, however, fully recognising this fact, he makes the grave mistake which forms the second reason for his ill-success—he appeals to statistics.

Now if no special sense attaches to any particular sound in the individual word, it of course follows that, without very minute weighing of sounds and sense, it would be impossible to draw any inference from merely taking a large number of words, and this is not the way M. Bourdon proceeds. On the contrary, he takes a number of passages from various languages, counts the sounds in each, and tabulates the results. Very good, we think; he intends to formulate the expression-quality of a sound from its relative frequency in a certain language, but to our surprise we find the author dwelling, not on the divergence, but on the identity of his results. Now, if all languages are made up of the same sounds in about the same proportions, it is clearly hopeless to draw any psychological inference from sounds; but the author need not have drawn such futile (and erroneous) conclusions as that the less frequent sounds in each language tend to disappear, and he should have avoided the error of assuming that the *ratio* of one sound to the rest gives the *normal* interval between its recurrences (p. 169). The mistakes which are due to an imperfect acquaintance with linguistic laws are too numerous to be specified here, but the author's taste seems to be for the study of language, and with wider knowledge and more rigorous logic he seems likely to do good work. Let him beware of his imagination; he pronounced "rois" in a relatively low pitch, and thinks one reason is that it would be impertinent to elevate the voice before royalty!

État Mental des Hystériques. Les Stigmates mentaux. Par PIERRE JANET, Professeur agrégé de philosophie au Collegé Rollin, Docteur ès lettres, Lauréat de l'Académie des Sciences morales. Paris: Rueff et Cie., 1893. Pp. 233.

This attractive looking little volume treats of the stigmata or constant and essential features of the mental condition of hysterical patients. It is to be followed by a second dealing with transient and comparatively unessential phases of the disease. Fuller notice will follow when this second volume appears.

The leading topics investigated in the present instalment of the work are the anæsthesias, amnesias, aboulis, and the motile disorders characteristic of hysteria. The clue followed by the author is that with which he has already made us familiar in his very remarkable book, "L'Automatisme psychologique". Psychological analysis founded on observation and experiment shows that the mental condition of the hysterical patient is essentially one of enfeebled attention. Hence the impossibility of intellectual or volitional effort, especially in the assimilation of relatively new ideas or adaptation to new circumstances. Hence also in very large measure anæsthesia and amnesia. Extensive groups of sensations and images become definitely excluded from the synthetic grasp of personal Consciousness. They can be shown to exist, but the patient is incapable of noticing them.

M. Janet appears to have succeeded in bringing the leading psychological phenomena of hysteria under a general formula, and this is all that he has attempted. He makes no pretence to give a physiological explanation. The value of his work on the clinical side is recognised by Professor Charcot in a short preface. To the psychologist it is undoubtedly of extreme interest and importance. Perhaps the physiological explanation, were it forthcoming, would prove of less value to the student of Mind than the results of M. Janet's purely analytic method. We cordially recommend the book.

Sociologie und Politik. Von LUDWIG GUMPLOWICZ. Leipzig: Duncker und Humblot, 1892. Pp. iv. 162.

In the first book of his essay the author seeks to establish the position

of sociology as a science among sciences; in book ii. he sketches the concepts and laws of the science, and then only, in book iii., proceeds to justify his title by considering politics as a form of applied sociology.

The idea of a science of social groups and their connected activity as such was first brought forward in Germany by Schleiermacher and Friedrich List, and developed by Mohl, Stein, Gneist and Riehl by way of reaction to the individualistic, atomistic doctrine of the State prevailing in France. Rödinger, Doergens, Bernheim, Massaryk, made scientific advance in seeking for a law of social progress or regress. Present-day opponents of sociology as an independent science fail for the most part to discern the true nature of its subject-matter. It is not philosophy of history, for it starts with no *a priori* "Begriff" of design, unity or cosmos; nor is it socialism, being theoretic, not therapeutic; nor is it statistics, which amounts only to a method, comparable to microscopy in pathology. Neither is it identical with ethnology or political economy. Historians claim that, since its subject is 'society,' they are and have ever been those in possession. But writing history is not science, but art, being "a more or less poetic rendering of human action in the life of the body politic". Even if we admit with Freeman that history is the science of man as a political being, sociology is still distinctive, for it ignores the consideration of individual will and intervention which go for so much in the psychological individualism of historical method, and takes for its unit not man, not "society," but the social group or collective personality, and the system of movements proceeding by interaction of existing social groups. These movements are simpler, more obviously regular and more predictable than those of single persons. Sociology assigns to them no normative values; normal and abnormal for it can have no sense other than conformity to nature and the contrary. Man's highest ideals must be approached through the state or body politic; he can serve no higher interests. And where the interests of social circles mutually collide, those of the "wider and higher" must decide.

This consideration of molar motion bearing along the individual, often unconscious, sometimes vainly resisting, is borne out, we are reminded, by the newer psychology of mental life as mainly impulsive (*triebartig*), and but little dependent on will. Social currents reveal man as a genuine *Hordentier* or gregarious animal.

The supreme and primary law of social movement is the effort after self-preservation, which sets loose all latent social forces, and undergoes modifications through external factors, *e.g.*, climate, and internal factors, *e.g.*, religion. Comte's and Spencer's development of the idea of "social organism" was not so pregnant in results as the Malthusian and Darwinian theory of the struggle for life, by which we see the law of self-preservation resulting inevitably in war or truce rather than peace.

Sociology does not show this to be desirable, it merely investigates phenomena with that "disinterested interest" which is the attitude of the scientist. The author, to bring out the use of the sociological standpoint to the politician, examines the leading movements in modern European politics, and does not shrink from prophecy. The far-seeing politician is *eo ipso* a sociologist, but the wake of social development is strewn with the wreckage of futile, because undiscerning, individual resistance. "Once . . . France grew at the expense of Germany. Not that it was doing thereby anything wrong; the growth was only a natural process of amalgamation . . . between disparate social elements." Will the average German welcome the growth of such "disinterested interest" in his statesmen?

Psychologische Skizzen. Von EDMUND W. RELLS. Leipzig: Verlag von Ambr. Abel, 1893. Pp. viii., 191.

A pleasant little collection of essays dealing in a popular style with some problems in Applied Psychology. Perhaps the most interesting is that entitled "Zur Psychologie der Taschenspielerkunst". The performance of conjuring tricks by a genuine adept is as truly a psychological experiment as any which are tried in laboratories. Mr. Rells has evidently studied the subject very carefully from the theoretical point of view, and he has also familarised himself by practice with the modus operandi of the conjuror. He denies that mere rapidity of movement is an important factor in the more scientific deceptions. On the other hand he lays great stress on the power to perform furtive and isolated movements with one hand or finger, while the rest of the body is otherwise engaged in so overt and natural a manner as to engross for the moment the attention of spectators. He refers to the excellent papers of Mr. Richard Hodgson on the "Possibilities of Malobservation and Lapse of Memory," published in the *Proceedings of the Society for Psychical Research*, for May, 1887, and July, 1892. The other essays treat of "Crystal Vision," "Child Logic," "Genius," and "Psychology in the most recent French Literature".

Commentar zu Kant's Kritik der Reinen Vernunft. Von Dr. H. Vaihinger, A.O., Professor der Philosophie an der Universität Halle. Zweite Band. Stuttgart, Berlin, Leipzig: Union Deutsche Verlags-gesellschaft, 1892. Pp. viii., 563.

It is more than ten years since the first volume of this monumental work was published.[1] Professor Vaihinger claims with good reason that this long pause has been advantageous, inasmuch as it has enabled him to utilise the many valuable contributions to Kantian literature which have appeared in the interval. The present volume treats of the Transcendental Aesthetic. It is characterised by all the merits of the previous volume, minute accuracy, power of logical analysis, lucidity, judiciousness, and boundless erudition—perhaps in an even higher degree. A number of very valuable essays on points of special interest are interspersed in the body of the commentary, and there is an appendix on the special literature relating to the Transcendental Aesthetic.

According to our experience Dr. Vaihinger's book may be read continuously through with pleasure as well as profit, and we think that it ought to be so read, not merely used as a book of reference. Full notice will appear in due course.

Die Ursachen des Verfalls der Philosophie in alter und neuer Zeit. Von Dr. GIDEON SPICKER. Leipzig: Wigand, 1892. Pp. v., 280.

Auguring a new springtime of philosophic development to be approaching after half a century's winter of scepticism within and disregard without, Professor Spicker has set himself the task of inquiring into the cause of this general rhythmic decay and renovation in philosophy. He rejects as inadequate the explanation that classic philosophy, based on reason and imagination, declined through debility in intellectual activity, or that scholasticism, based on religion and revelation, withered from exhaustion of thought-content, and lack of freedom and positive knowledge. Neither explanation suffices for present barrenness.

By different methods and trains of reasoning the author arrives at

[1] *Cf.* MIND, O.S., Vol. 8., p. 440.

substantially the same conclusions as the author of "Natural Religion" assigned for the decay of creeds. The basis is too narrow; phases of individual and social consciousness are neglected: the one-sided formula in process of time is outgrown, and scepticism intervenes till belief, inspiring and fruitful, finds a more adequate central idea. For belief—belief in the testimony of consciousness, in the possibility of conformity between subject and object,—is the ultimate starting point, as it is the ultimate goal at which thought finds itself. But the necessity of believing or acquiescing, which in the last resort is the criterion for logical truth is only one of the phases of subjective experience. If feeling of any kind force its presence upon us irresistibly, is this "necessity" without objective validity? Is the "sufficient reason" in every case essentially and only a creation of the intellect? It is true that representation and conception are necessary to moral verdicts, but they presuppose a content, themselves furnishing only the form. The dynamic capacity, which, when presented as feeling and aspiration after the Infinite and Eternal, constitutes, according to Schleiermacher, the essential principle of religion is a primary factor. The intellect, recognising, relating, comprehending, formulating, is a posterior function. But religion, morals, art, are not only objects, but also living factors of philosophy, if philosophy is to compass the mysteries of life and consciousness in not one but every aspect. Seduced by the method of physical science the philosopher looks on nature as not of it, whereas he is as much creator as independent observer. To examine ourselves we must unfold ourselves. But philosophy has been too content to be either a science of the Absolute, or absolute science, or even only empirical science, forcing everything that puts in a claim to truth and certainty into the Procrustean bed of the intellect working by logical proof and explanation.

The true aim of philosophy is to bring out a theory of the whole inner (*geistige*) life, as it is and as it ought to be by its self-constructed ideal, and then, taking the results of physical science, to evolve out of both "an absolute principle". But it is timid, eclectic, sceptical, handing over all "transcendental conviction to the empiricism which leans on Bibles and the intellectual formalism of dogmas. Only the philosopher can mediate between science and religion, between the actual and the ideal. A sceptic as to the validity of one or the other can do nothing in such a task.

Die Willensfreiheit und ihre Gegner. Von Dr. Constantin Gutberlet. Fulda: Fuldaer Actiendruckerei, 1893. Pp. vii., 271.

In this essay, the sequel to his recent work, *Ethik und Religion*, the writer continues his criticism of the latest developments of what he terms anti-christian philosophy or mechanical monism. Conscious that he leads a forlorn hope, he maintains that in free-will we have a fundamental fact both of subjective and objective experience equal in cogency to the intellectual compulsion accompanying our judgments respecting what is true or not true, and the denial of which lands us equally in complete scepticism. *Cogito—opto—ergo sum:* such is his general affirmation, if we may so formulate it.

His position, however, is by no means so uncompromising as it might seem; it is one of conciliation; and if he fairly represents the new Indeterminism there will almost arise the need of re-stating what remains of positive ground of contention in the old controversy. For he refuses to identify liberty of volition with causeless volition, or to find it incompatible with regularity. Free-will is properly capacity of choice between a plurality of goods, frequently accompanied by the full consciousness that we could have acted otherwise. But at the same

time he readily admits "that nearly everything in human decisions depends on character, education, and external circumstances, . . . and that consequently our freedom is very limited in range". Regularity in social action, as shown by statistics, *e.g.*, in those of thieving, only proves the existence of *approximately* constant quanta of need, of needy persons, of opportunities, and of moral strength and weakness. Social statistics reveal unquestionably the prevalence in every direction of law, but this proves, not determinism, but the existence of an Orderer who is able to combine in the same universe both liberty and law. The procedure in the book is a detailed review and criticism of the theories of the Lombroso school, the physiological psychologists, and of some modern Determinist metaphysicians, viz., Schopenhauer, Rée, Paulsen, and Höffding.

Lo Studio della Delinquenza e la Classificatione dei Reati nella Statistica penale. Augusto Bosco. Roma: Tipografia Nazionale, 1892. Pp. 50.

Dr. Bosco is an eminent official in the statistical department of the Italian administration, and the essay before us is a very able exposition of the method in which criminal offences should be classified so as to extract not merely their judicial, but also their social, psychological, and ethical import. It is impossible to summarise Dr. Bosco's views and arguments as they are already presented in a very compressed form. In dealing with the English statistics of theft he incidentally illustrates the truth of a statement made by me in the *Nineteenth Century* for June, 1892, that the decrease of indictable offences in England is due to changes in judicial procedure, and not to a real decrease of offences against property. In order to eliminate as far as possible the effects of changes of procedure, Dr. Bosco classifies all kinds of theft together, and shows that whether we take a period of five years or a period of ten years the number of convictions for offences against property is greater now than ever. For the five years 1866-70 the convictions for theft were 38,468; for 1876-80 they were 37,414; for 1886-90 they were 40,570, annually. These figures take no account of the large number of juveniles now committed to industrial schools for theft or liberated after remand. In so far then as Dr. Bosco deals with English crime he unconsciously answers the attack which Sir Edmund Ducane has made upon me in the March number of the *Nineteenth Century*. Impartial testimony of this kind is better than columns of official optimism, in which convictions are confounded with cases tried, and scientific method is cast to the winds.

W. D. Morrison.

Les Applications de L'Anthropologie Criminelle. Cesare Lombroso. Paris Félix Alcan, 1892. Pp. 224.

This book Professor Lombroso tells us is an answer to the reproach that the investigations of the anthropological school of criminalists possess no practical utility. At the same time he enters a protest against the idea that a knowledge of the true should always be susceptible of immediate application to the everyday affairs of life. In the first chapter Lombroso deals with the criminal type among political offenders. He states that true revolutionists have a harmonious physiognomy: the Italians who revolted against Austrian domination, and many of whom Lombroso has examined, present a smaller proportion of individuals of the criminal type than is to be found among the ordinary population. Among nihilists on the other hand there is a larger admixture of the criminal type, whilst almost all regicides are distinctly criminal in type.

No less than 40 per cent. of the Chicago anarchists had a criminal physiognomy, and a high percentage of French and Italian anarchists present anomalies of a criminal character. At the same time the criminal type is less frequent among political offenders than among ordinary criminals; the crimes committed by these offenders take an altruistic form, and the offenders themselves therefore need a greater degree of indulgence and pity. Although a believer in the death penalty Lombroso would not inflict it on political offenders: it invests them with the halo of martyrdom, and has a tendency to perpetuate their political aberrations. Lombroso draws the following distinction between the political and the ordinary offender: in prison or in a penal colony the ordinary offender is a sluggard who may kill his keepers, the political offender is generally industrious and sometimes a pioneer of progress. Passing from the political offender Lombroso tells us that a knowledge of the criminal type is of the utmost service to the cause of justice. He cites a number of instances to show that he has been the means of securing the conviction of offenders who would otherwise have escaped. Transportation has no beneficial effect on the born criminal. Change of surroundings effects no change in his disposition. He is incorrigible. This is the lesson taught by the French penal settlement at New Caledonia. It corresponds with the teachings of criminal anthropology. The practical application of this teaching is that the habitual offender should be altogether secluded from social life. Another practical conclusion to be drawn from the study of criminal anthropology is that the penal law cannot be based on the theory of responsibility. The criminal is a product of heredity and social surroundings, and laws based upon the assumption that he is not are certain to be inefficacious. The construction of fever hospitals does not diminish fever; this is done by improved sanitary surroundings. Crime is not reduced by building prisons but by improving the stamina and environment of the race. Punishment does not affect the conditions which produce crime, it has in consequence little effect in reducing crime. Social protection, and not individual responsibility, is the only proper basis of criminal law. The best method of social protection is the removal as far as possible of the individual, social, and economic conditions which tend to produce criminal habits of life. In fact, Professor Sidgwick in his *Methods of Ethics* exactly expresses the views arrived at by criminologists when he says that justice requires us to try to alter the conditions under which the criminal acts, and that punishment should be regarded as preventive. Preventive punishment should be a discipline calculated to adapt its recipient to social surroundings; where this adaptation cannot be effected permanent seclusion from social life must be resorted to. Our present English system represents a reaction against the utilitarian theory of punishment. This is principally owing to the pernicious influence of Carlyle. Rarely has English justice when it takes the form of a sentence of imprisonment been so completely retributive as it is now. In discussing the resolutions arrived at by recent congresses on prisons and penal law Lombroso mentions the following resolution of the St. Petersburg delegates: "This congress is of opinion that the teaching of criminal and penitentiary science is most useful, and desirable, and that the scientific study of the application of punishment can easily be reconciled with the exigencies of penal discipline. The congress also expresses the belief that a chair of criminal and penitentiary studies should be established at all universities." Inasmuch as about 750,000 cases come before the criminal courts of England every year it does seem reasonable that the men who try, prosecute, or defend these cases should have a wider knowledge of criminal matters than is supplied by the ordinary text books on criminal law. W. D. M.

Saggio circa la Ragione Logica di tutte le cose. Versione dal latino del Professore Carlo Badini. Un Note ed Introduzione di Pasquale D'Ercole.

Volume III.: Essologia, Sezione I. La Meccanica. Torino, 1892.

Pietro Ceretti, as we learn from an advertisement on the cover of this book, was born at Intra in 1823. Although a very prolific writer he remained almost entirely unknown during his lifetime, a misfortune no doubt largely attributable to the circumstance that his *magnum opus* was composed in Latin, and a Latin more barbarous than that of the Schoolmen. It was first published at Intra between the years 1864 and 1867, in three large volumes running to nearly 2300 pages, which apparently fell still-born from the press. His admirers hope that its re-issue in an Italian translation will make Ceretti's merits more widely known and appreciated. I cannot help thinking that their expectations are doomed to disappointment, and that the philosophical public of the present day will, like the philosophical public of the last generation, refuse to have anything to do with the enormous tomes that are thrown at their head. Ceretti's system is avowedly based on Hegel's Encyclopædia. Now the Hegelian philosophy, as a body of propositions professing to be true, is universally discredited over the European continent, and when studied at all is only studied as a chapter in the history of thought. Considered as such, an attempt to reform or re-apply its principles must be of the smallest possible interest. Schopenhauer repudiated the charge of having called Hegel a ninny, but admitted that he had applied that term to his disciples. The distinction still remains instructive.

If Hegel's system as a whole is unsound the most unsound part of it is beyond question the "Natur-philosophie". To call it merely futile would be gross flattery; it is positively mischievous and misleading. Not only are the explanations given of physical phenomena illusory and fantastic, not only is there no forecast of the advances subsequently achieved by science, but Hegel is constantly making war on the scientific truths already established in his time and abundantly confirmed by more modern research. Nor is this antagonism accidental; it is due to a deliberate confusion of the objective and subjective orders, to a method that arranges the facts in a series of triads constructed according to a superficial analogy with the processes of logic as opposed to the method that resolves them into their dynamic and material components by mathematical and experimental analysis. Prof. D'Ercole justly protests against the common error that Hegelianism despises experience, observing that Hegel on the contrary insists on the necessary agreement between speculation and the facts of sense. Certainly; did not Trendelenburg observe long ago that experience supplied the weights that make the wheels of the dialectic system go round? In fact, Hegel clings much too nervously to the concrete presentations of sense; what he detects and is always attacking under the name of abstraction is their scientific analysis. Thus he will not allow Kepler's Laws to be deduced from gravitation acting in combination with a tangential force, but explains them by an entirely imaginary inter-play of the categories of space and time. Now, as Ceretti had the advantage of living half a century after Hegel he does not commit himself to all the German philosopher's quarrels with science; his expressions about the Newtonian analysis of the solar spectrum, for instance, are much more guarded and conciliatory; but on other points he follows and even outdoes the aberrations of his master. While admitting the fact of celestial gravitation and giving it a mystical interpretation, he will not allow it to be formulated as varying with the mass of the interacting bodies, and still less to be identified with terrestrial gravity. He actually seems to think that the dependence of force on mass is refuted by the fact that the relative distance of the

planets from the sun is not determined either by their relative mass or by their relative density (p. 456); while in order to combat the identification of celestial with terrestrial gravity he very seriously enumerates the sensible differences between a revolving orb and a falling or pressing body on the earth's surface (p. 458). He quotes with approval Hegel's well-known dictum that "the heavenly bodies are not pulled about hither and thither but, as the ancients said, move along like blessed gods" (p. 460); thus incidentally betraying the mythological motives that contributed to the construction of his own and of his master's system.

Prof. D'Ercole in his introduction to this work nowhere mentions Auguste Comte as an author whom Ceretti had studied. Nevertheless I think some traces of his influence may be discovered both in the style and in the thought of the Italian philosopher. When Ceretti tells us that the heavens are a proof of the divine wisdom only in so far as they serve to systematise our mathematical speculations whereby God creates the celestial system within us (p. 403), this looks very like an idealistic version of Comte's famous epigram, that the heavens declare the glory not of God but of Hipparchus, Kepler, and Newton. Like Comte he discourages the study of stellar astronomy, and like Comte he will not admit the possibility of a celestial chemistry (p. 433); but here comes in the important difference, due to German influence, that what with Comte is merely a limitation of our knowledge becomes with Ceretti a limitation of existence itself which he seems to measure strictly by the extent of our actual knowledge. "If the knowledge of the heavens includes no more than figure and movement according to the idea of magnetic direction and gravitating revolution, this figure and this movement are the essential limits of celestial reality" (p. 466). Hence the nebular hypothesis must be rejected under every form, because under any form it assumes, first, that cosmic matter possesses the physical properties of terrestrial matter, and secondly, that "nebular suns and planets can come to be what they were not before and cease to be what they were" (p. 472). In short, if we think fit to treat any order of phenomena as mere logical or mathematical diagrams we can no longer think of them as complete realities, nor as subject to a common law of evolution. The weak point of all such restrictions is that they are at the mercy of every new discovery in science, as the spectroscope has amply shown in the case of celestial chemistry. But the ingenuity and audacity of Ceretti would no doubt have been fully equal to the task of explaining away the results of spectroscopy, with which, by the way, he seems to have been not altogether unacquainted.

A philosophical system that is neither true nor essentially original, nor influential, nor expounded with any charm of style, but very much the reverse of all these things, has no claim on our attention, especially now when so much that is worth reading has to be left unread for want of time. Prof. D'Ercole seems to think that because Ceretti knew a great deal, and thought and wrote a great deal about what he knew, however falsely and foolishly and grotesquely he may have written, his 2700 quarto pages, composed in a jargon as much more difficult than Hegel as Hegel is more difficult than Heine and as much duller than Comte as Comte is duller than Voltaire, are to be counted as a permanent addition to the intellectual patrimony of Italy. In a country where Oravura Asigine is so much esteemed it is perhaps only natural that the same standard of appreciation should be extended to speculative studies. But on the whole I am of opinion that even sitting through an Italian opera as generally performed in Italy is a less wearisome and unprofitable way of spending one's time than reading a chapter of Ceretti.

ALFRED W. BENN.

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W. Steuer, *Die Gottes und Logoslehre des Tatian*, Leipzig, Veil & Co., 1893, pp. 113.

M. Angelo Vaccaro, *Le Base Del Doretto e Dello Stato*, Torino, Fratelli Bocca Editori, 1893, pp. xxxii., 388.

L. Credaro, *Lo Scetticismo degli Academici*, volume secundo, Milan, Ubrico Hoepli, 1893, pp. 358.

NOTICE will follow.

IX.—PHILOSOPHICAL PERIODICALS.

The Philosophical Review.—Vol. ii. 2. J. G. Schurman—Kant's Critical Problem. [The central problem for Kant was: How are synthetic judgments *a priori* possible. This problem has two branches: (1) How do such judgments arise? and (2) How comes it that they have objective validity? In answering these questions Kant is led to consider another—How is experience possible? But this is not acknowledged by him as the primary and essential inquiry. The main fallacy of his procedure lies in the assumption that synthetic *a priori* knowledge exists. There is really no such thing, but only "facts perceived" and "hypotheses to account for them". We presume that Professor Schurman will endeavour to show in the future articles which he promises that no lurking *a priori* cognition is implied in the perception of a fact or the framing of an hypothesis.] A Seth—Epistemology in Locke and Kant. [Locke was right in holding that "the mind knows not things immediately, but only by the intervention of the ideas it has of them". He was wrong in holding that "our knowledge is only conversant about ideas". Professor Seth remarks that 'it might be more correct to say that our knowledge is never conversant about ideas—unless in the reflective analysis of the psychologist'. We may add that even in psychological analysis the idea cognised is not the idea which constitutes the cognition. Kant's starting-point is according to Seth, 'a hypothetical dualism in many respects similar to that of Locke'. He ought, we think, to have laid more stress upon the essential difference between them, in which lies the Kantian distinction between the object as given and the object as thought. Kant's attribution of "quasi independence" to the phenomenal object is sharply and perhaps unfairly criticised. It is true that phenomena in space are regarded by him as being independent of our subjective perceptions. But this is only because they are thought as phenomenal of an object which is unperceived and "trans-subjective"—an object which apart from its relation to our sensibility is unknowable, though not wholly unthinkable.] E. B. Titchener—Anthropometry and Experimental Psychology. [A protest against confusion of psychological with anthropometrical experiment. "The psychological experiment presupposes, almost universally, practice;—practice in introspection, practice in attentional concentration, practice in the control of the particular apparatus employed. The anthropometrical experiment requires at most only so much practice as is necessary for the correct carrying out of instructions."] No. 3. E. Adickes—Bibliography of Writings by and on Kant which have appeared in Germany up to the end of 1887. [The present instalment of this Bibliography is devoted to Kant's own writings. The arrangement is chronological, and the same order will be adopted for the writings on Kant. "The conclusion will consist of an *alphabetical* list of persons and a *systematic* index." The whole work should prove very valuable to the student of Kant.] A. Seth—The Epistemology of Neo-Kantism. ["Trans-subjective reference constitutes the very essence of knowledge as distinguished from experience as a series of subjective happenings which take place but which mean nothing." This is the position maintained by Professor Seth as against the doctrine of immanency which he attributes to the Neo-Kantians and to Mill. It seems to us that Professor Seth is much more of a Neo-Kantian than his opponents.] J. McK. Cattell—Mental Measurement. [Intensity, ex-

tensity and subjective time are mental magnitudes corresponding to the physical magnitudes force, space and physical time, and they are all measurable. The same is true of "mental complexity" which "may be regarded as analogous to the configuration of a physical system". We are glad to find Professor Cattell maintaining that "our knowledge of the mind is less partial and uncertain than our knowledge of the nervous system".]

In the INTERNATIONAL JOURNAL OF ETHICS for April, Mr. J. S. Mackenzie, treating "The relation between Economics and Ethics"—mainly as viewed from the economic side—says things old and new in a stimulating and discursive manner. A specimen of his new things is "that a man is exploited when he is used as a mere means and pauperised when he is used as a mere end". Mrs. Bryant writes thoughtfully on "Self-surrender and Self-development"; treating of the place of recreation in a life of serious purpose, of the occasional conflicts between right conduct and the cultivation of righteous character, and especially of the gain in self-development—both intellectual and moral—obtained through self-surrender. Mrs. Bosanquet prints a lecture—given before a Massachusetts "School of Applied Ethics" on "The principles and chief dangers of the administration of charity". Mr. Thomas Davidson writes on "The ethics of an eternal Being"; he holds that "no true system of ethics can be constructed except on the supposition that the moral agent is an immortal being"; and lays down—in disagreement with Mrs. Bryant—that this immortal being will "reach a far better and purer result if he acts with a view to the plenitude of his own being . . . than if he has his eye continually on the state of the world and labours to reduce it to an ideal or fanciful Utopia". Utopias, however, being at present much in the air—in every sense—Mr. W. M. Salter points out how the aims of the Utopist might be realised by "Reform within the limits of the existing law"; suggesting that (*e.g.*) any landowner who believes that "unearned increment" should go to the State ought to devote his own to public uses. The general idea is as old as Aristotle's criticism of Plato's communistic Utopia: but it is always possible that the twentieth century may see its realisation. Mr. Sidney E. Mezes writes on "Freedom: its relation to the proof of determinism". He attempts to prove that induction cannot prove or disprove freedom: but that "inasmuch as our assertion of necessity depends on our right to form teleological judgment, that assertion, the ordinary meaning of the words to the contrary notwithstanding, is itself a covert or disguised assertion of freedom". There is also a "discussion," judiciously conducted by Miss Gilliland, on Professor Upton's pamphlet "Are ethics and theology vitally connected".

REVUE PHILOSOPHIQUE.—xviii. An., No. 4. Koehler—Pourquoi ressemblons-nous a nos Parents? Étude physiologique sur la Fécondation. [A very lucid and interesting exposition of the results of recent research.] L. Arréat—De la Méthode graphologique. [An attempt to connect 'graphology' with the classifications of different types of character recently proposed by M. Ribot and M. Pérez.] F. Picavet—Sur la Néo-Thomisme—et la Scolastique. [A very full account of recent contributions to the history of Scholasticism]. No. 5. L. Dauriac—Psychologie du Musicien. 1. L'Évolution des Aptitudes Musicales. [There are five kinds of musical aptitude: (1) for enjoying music; (2) for discerning good from bad; (3) for justifying such discernment by analytic criticism; (4) for rendering music with feeling and insight by voice or instrument; (5) for composing music. The mutual relations and interdependence of

these various powers are carefully discussed]. F. Houssay—Sociabilité et Morale chez les Animaux. [The most potent condition favouring the survival of a species is self-sacrifice of an individual in the interest of the community. The author appears to regard this view as anti-Darwinian]. G. Marchesini—Sur les Idées Générales. [The antithesis between abstract idea and concrete percept is illusory: the abstract idea is merely a determination or "specification" of the concrete and sensible by the analytic and synthetic activity of the mind; it is the "logical synthesis" of a plurality of particular ideas.] No. 6. Y. Delage—La Nouvelle Théorie de l'Hérédité de Weissmann. [A full and clear exposition of Weissmann's latest views.] J. M. Charcot et A. Binet—Un Calculateur du Type Visuel. [An account of the results of experimental investigation of the case of M. Diamandi as compared with that of M. Inaudi. M. Diamandi fixes a series of numbers in his memory with greater rapidity and certainty when he sees the figures written on a sheet of paper than when he has to depend on his hearing. When he apprehends them by vision he first glances at the paper, then closes his eyes and makes an effort to obtain a vivid and distinct image of the figures: he repeats this process as often as he finds necessary. Both M. Inaudi and M. Diamandi were made the subjects of a series of experiments calculated to bring out in an instructive manner the contrast between the mental processes of visuals and auditives. They were required to learn by heart squares severally composed of five numbers each containing five figures. It was found that though M. Inaudi learned much more rapidly than M. Diamandi, the latter repeated the series of figures with far greater rapidity and certainty in all directions other than that from left to right]. L. Dauriac—Psychologie du Musicien, II. L'Oreille Musicale. [Distinguishes the different factors which constitute an "ear for music" and investigates their manifold variations in different individuals. The aptitudes chiefly examined are those for discerning differences of pitch, of timbre and of rhythm, and for detecting false notes. Deficiency in these respects constitutes tonal deafness. Musical deafness is essentially distinct from tonal deafness. It consists in incapacity for musical synthesis—for grasping the unity of a musical whole].

Revue de Métaphysique et de la Morale.—Première Année, No. 3. G. Noel—Le Mouvement et les Arguments de Zénon d'Élée. [Admits the validity of the "flying arrow" as a *reductio ad absurdum* of the view according to which space and time are composed of ultimate indivisible units. The "Dichotomy" and the "Achilles" are defended against the usual "refutations". Nevertheless they are pronounced fallacious, inasmuch as they are based on a wrong conception of "motion". They assume that motion is a ready-made quantum composed of fractional parts, whereas it ought to be regarded as the process through which such a quantum comes into being.] V. Delbos—La Morale de Spinoza. [The distinctive feature of this article is the attempt to make the concept of the "Amor intellectualis dei" a key to the interpretation of the Spinozistic system as a whole, apparent inconsistencies being explained as due to imperfect development of doctrine in the earlier stages of exposition.] G. Milhaud—Le Concept du Nombre chez les Pythagoriciens et les Éléates. [The Pythagorean numbers were conceived as constituted by units having position in space, *i.e.*, as points. Geometrical figures were regarded as composed of these units, and no distinction was drawn between figure and figured body. The arguments of Zeno were directed against the Pythagorean doctrine that matter is constituted by aggregation of a plurality of distinct elements.]

Revue Internationale de Sociologie.—No. i. Paris. A. Giard et E. Briere, Editeurs. Pp. 112. It is the opinion of the promoters of this periodical that social subjects are the questions of the hour, and that the future of civilisation depends on the manner in which they are solved. Political passion and prejudice will not settle them. They must be approached in a scientific spirit and solved in accordance with scientific principles. The aim of this review is to deal with social phenomena in this spirit—to collect facts, to classify them, and to ascertain the laws which govern them. In fulfilment of this purpose the review will publish original monographs, it will take cognisance of current social movements, it will review the literature of these movements. and its pages will be open to all who have anything to say no matter from what standpoint it is said. In the first article M. Worms, the editor, tells us what in his opinion Sociology is. He defines this rather vague word as the science of societies. It will be observed that this is the definition which Mr. Spencer and Comte before him have already given of sociology. According to M. Worms, sociology is a science in embryo: we have social sciences but no social science. This arises from the fact that sociology is the most complex of all the sciences. Sociology will make progress, M. Worms considers, if it follows the methods of biology, and divides itself into descriptive and comparative sociology. Descriptive sociology will occupy itself with definite sets of social facts; comparative sociology will group these facts and ascertain the laws which regulate them. For ourselves we would say that it is hazardous to press biological method too far in social investigations. Up to a certain point this method is no doubt fruitful, but it is apt to confound analogies with arguments, and it has certainly led one well-known German sociologist, Schæffle, to construct fantastic resemblances between corporeal and social life. Following the biological method Mr. Spencer and M. Fouillee tell us that the final outcome of social evolution will be an individualistic form of society: the Germans on the other hand who follow this method say that the social organism is unfolding in the direction of state socialism. When the facts of social life regarded from the same point of view produce such contradictory impressions on the beholder it is hardly possible to resist the conclusion that the point of view itself is a defective one. M. Worms is on safer ground when he says that the social sciences are as yet in the stage of simple observation, and that it will be many a long year before we can expect anything from them in the shape of a classification of the laws which determine the evolution of social life in its entirety. The next paper is an account of a strike under the regency by M. Babeau. M. Bertillon follows with a discussion of the birth rate in France. He says the abnormally low birth rate among his countrymen proceeds from an economic cause and must be met with an economic remedy. The economic cause is the passion for economic wellbeing; voluntary sterility is the result. The state should abolish this cause by increasing taxation in the case of small families and by diminishing taxation when families are large. It is to be doubted whether this remedy will achieve its purpose. The birth rate in all important European countries has decreased considerably within the last twenty years. As the standard of comfort is raised it will decrease further still and the French in the future will not find themselves so completely outstripped in numbers by other races as M. Bertillon seems to fear. The last article is by M. du Maroussem. The writer sees industry becoming more and more concentrated and the small trader being squeezed out of existence. He is afraid of the triumph of an industrial system which will be headed by a wealthy oligarchy. It is a suggestive paper. A

chronicle of the social movement and a review of books closes a very good first number.

PHILOSOPHISCHE STUDIEN.—Bd. viii., Heft, 3, 4. H. Eckener—Untersuchungen uber die Schwankungen der Auffassung minimaler Sinnesreize. E. Pace—Zur Frage der Schwankungen der Aufmerksamkeit nach Versuchen mit der Masson'schen Scheibe. [These two investigations of the 'fluctuations of attention' deal principally with the theory recently advanced by Münsterberg, in *Beiträge*, ii. That theory is disproved by experimentation (sound and sight). The fluctuations are not periodical (except, perhaps, under certain definite conditions, p. 394), and they are not peripherally explicable. Dr. Eckener attempts to furnish a psychological theory of the phenomena, based on a criticism of that of N. Lange.] J. M. Cattell—Aufmerksamkeit und Reaction. [The general validity of L. Lange's distinction of the 'sensorial' and 'muscular' time is disputed.] A. Kirschmann—Beiträge zur Kenntniss der Farbenblindheit, ii. [Typical red-green-blindness, with shortened spectrum; green-blindness, a system containing only the qualities red-orange and blue; green-blindness, with modifications, a case of diminished colour-sensibility, with practical absence of blue and orange. 'Polychromatic' is to be substituted for 'trichromatic'. Anomalies of polychromatism occur, and there are intermediate stages between it and dichromatism. Dichromatism seems to have nearly as many forms as there are cases. Transference of complementarism is often to be noted. The neutral spot does not always lie in the region of the spectrum, where it must be placed in accordance with any theory of ground-colours.] E. Meumann Beiträge zur Psychologie des Zeitsinnes, I. [An elaborate critical article, dealing principally with the Time-sense researches of Münsterberg and Schumann. The inadequacy of the theories of these authors is shown in detail. An experimental investigation of the problem has been carried out by D. Meumann, and will shortly be published. Attention may be called to the *Schlussbemerkungen*, pp. 503 ff., which are, unfortunately too lengthy for transcription.] B. Kämpfe—Beiträge zur experimentallen Prüfung der Methode der richtigen und falschen Fälle. [A careful investigation of the method, in the sphere of sound. The method made good its right to rank with the other attested psychophysical procedures. The paper discusses its theory, in terms of the proposals of Fechner, Müller, and Merkel. Weber's law was confirmed.] A. Kirschmann—Die Farbenempfindung im indirecten Sehen, i. [Results were obtained, which harmonise neither with the Young-Helmholtz hypothesis, nor with that of Hering. The relative extension of the colour-zones, and the influence of the magnitude of stimulus on the range of colour-sensibility are considered. The resemblance between partial colour-blindness and the colour sensation in indirect vision is superficial only.] K. Marbe—Die Schwankungen der Gesichtsempfindungen. [A research undertaken under Prof. Martius' direction, independently of the work of Drs. Eckener and Pace. Their conclusion, that the fluctuations are not periodical, is confirmed. The thesis is maintained, that visual fluctuation is dependent on the relation of the intensity of the difference-stimulus (ring) to that of the ground-stimulus (background). The phases of visibility increase, with increasing difference, within limits. The duration of an oscillation is a function of this increase. The problem is here regarded in a new light. Several points in the three papers call for further detailed investigation.] E. W. Scripture—Ist eine cerebrale Entstehung von Schwebungen möglich? [An answer to Schäfer's objections (*Zeits. f. Ps. u. Ph. d. Sinnesorg.*, iv., 348) to the writer's former publication (*P. S.* vii., 630).] W. Wundt—Ist der Hörnerv direct durch

Tonschwingungen erregbar ? [A theoretical discussion on the basis of the experiments of Scripture, Cross and Goodwin, König, Ewald, &c. Either one must retain the doctrine of specific energy, and give up the resonance-hypothesis; or reject the former, and keep the latter in an expanded form. Adopting the second alternative, we have two paths of conduction: tympanic membrane, ossicles, labyrinth-fluid, organ of Corti: and bones of the head, terminal brushes of the cochlearis (lying in bony canals), nerve.] W. Wundt—Chronograph und Chronoscop. [Answer to a criticism of the writer's Chronograph, published by Prof. Cattell.] W. Wundt—Notiz über psychologische Apparate. [A timely note as to the guarantee of the Leipzig instruments.]

Zeitschr. F. Psych. U. Phys. D. Sinnesorgane.—Bd. iv., Heft 6. Dr. Ziem—Das Tapetum lucidum bei Durchleuchtung des Auges. [Observations on the cat's eye. *Cf.* Virchow's *Archiv.*, cxxvi., 467 ; *Deutsche med. Wochenschr.*, 1892]. G. E. Müller—Berichtigung zu Prof. Münsterberg's Beiträgen zur experimentellen psychologie, Heft 4. Litteraturbericht. Bibliographie der psychophysiologischen Litteratur des Jahres, 1891. Bd. v., Hefte 1, 2. F. Hillebrand—Die Stabilität der Raumwerte auf der Netzhaut. [The third dimensional localisation of a binocularly fixated point is not determined by the stimulus (retinal image), but by convergence *plus* a number of variable empirical moments. The localisation of all other points, seen single in binocular vision, depends on the disparity of the retinal images, and is therefore given in the primitive sensation (p. 6.) Localisation in reference to the nuclear plane (p. 10) is conditioned only by breadth, not by height-disparity. The space-value of two points on the two retinæ, which are so related that the corresponding simple object of vision lies on the nuclear plane, is stable. The position of the visual object does not as a rule coincide with the position of the actual object (law of disparate third-dimensional localisation). The article is important.] F. Brentano—Über ein optisches Paradoxon, ii. [A reply to Lipps' criticism (iii., 498.) Whether one accept either or neither of the proffered explanations, one must admit that the methodology of this controversy is correct.] Versammlungen. Litteraturbericht.

Viertejahrsschrift für Wissenschaftliche Philosophie.—xvii. Jahrgang, Heft 2. J. Petzoldt—Einiges zur Grundlegung der Sittenlehre. [An interesting exposition and criticism of F. Staudinger's system of Ethics, as contained in his book "Die Gesetze der Freiheit". Staudinger holds that the word "ought" always refers to some presupposed end. What ought to be done is what has to be done if the end is to be realised. The "moral ought" refers to an ultimate and unconditional end. This can only be found in the union of all other ends in a harmonious system. This is the supreme end because it is the supreme means. In the case of rational beings the fullest realisation of their desires depends on inward harmony of these desires with each other. Thus the mere fact that such a being seeks any ends at all places him under an obligation to seek this end. Staudinger regards want of inward harmony as invariably consisting in some kind of contradictory relation between ideas. This is the point with which Petzoldt's adverse criticism is concerned. He prefers to the conception of contradiction that of relative incompleteness and instability, and refers to Avenarius' "Kritik der Reinen Erfahrung".] P. Barth—Kritik der Grundanschauungen der Sociologie H. Spencer's. [Examines Spencer's treatment of the analogy between society and an organism. Spencer is charged with inadequate working out of the points of

agreement and with substantial failure to work out the points of difference. Above all he is taken to task for his neglect of the "apperceptive" as distinguished from the merely "associative" stages of social union. In its "apperceptive" or civilised phase society not only exists but is conscious of itself and endeavours with open eyes to determine its own condition and progress.] Chr. Ehrenfels—Werththeorie und Ethik, 2te Art. [An elaborate investigation of the conditions which produce changes in "feeling-disposition" and consequent changes in valuation of objects both in the individual and in communities. This article is well worth reading.]

Zeitschrift für Philosophie und Philosophische Kritik.—Heft 102te.—A. Wreschner—Ernst Platner's und Kant's Erkenntnistheorie mit besonderer Berücksichtigung von Tetens und Aenesidemus. [Considers the modifications produced by Kantian influence and by that of Tetens and Aenesidemus in the views of Platner concerning the "objectivity" and validity of knowledge, as shown by comparison of the first, second, and third editions of the "Aphorisms". The examination is careful and detailed. The general result is that Platner owing to the influences referred to developed in a sceptical direction so that in his 3rd edition he renounces the endeavour after "objective" truth and claims only subjective and relative certitude. But he regarded this kind of certitude as attainable not only within the sphere of sensible experience, but also in metaphysical inquiries concerning the soul and God]. Johannes Volkelt—Psychologische Streitfragen. [Opposes the following doctrines expounded by P. Natorp in his "Einleitung in die Psychologie nach Kritischer Methode". (1) That the "form of consciousness" as distinguished from its content is not a possible object of knowledge; (2) that this "form" is incapable of qualitative or intensive variations; (3) that pure Psychology cannot be an explanatory science, because, to objectify the contents of consciousness is *eo ipso* to transform them into physical facts; (4) that the only possible "Natural science of psychology" is that which refers states of consciousness to their physiological conditions; (5) that the only function of pure psychology is to trace by analysis of objective cognition the subjective data or immediate contents of consciousness which it presupposes. Ludwig Busse—Zu Kant's Lehre vom Ding an sich. Recensionen, &c.

Zeitschrift für exakte Philosophie.—Bd. xix., Heft iv.—O. Flügel ueber Gefuhl und Affekt. [Defends the Herbartian doctrine that feeling has its source in the interaction of presentations from misconceptions on the part of Wundt; but the greater part of the article is devoted to emphasising the distinction between feeling on the one hand and those disturbances of mental equilibrium which are called in a special sense emotions. C. Lange's confusion on this point is noted.] O. Flügel—Uber Ziehen's physiologische Psychologie. [Discusses among other points Ziehen's separation of the seat of sensations and the seat of memories, his denial of unconscious mental process, his doctrine of will, and his general view of the relation of body and mind. Besprechungen.]

Revista Italiana Di Filosofia.—March and April, 1893. E. Passamonti—Giulio Cesare Vanini. F. Bonatelli—Intorno al Giudizio negativo. F. Puglia—Necessita di profondi studi psicologici per lo sviluppo della filosofia de diritto. N. Fornelli—Missione educatrice dell' Universita, i. Bibliografia, &c. May and June—G. Dandolo La Dottrina della Memoria in Cartesio, Malebranche, et Spinoza. G. Mantovani—La psicologia come Scienza sperimentale. A. Valdarnini—Un nuovo Trattato di Filosofia della Natura. N. R. D'Alfonso—Lo Spettro dell' Amleto. Bibliografia, &c.

Revista Internationale di Scienze Sociale e Discipline Ausiliarie. —Anno i. Vol. i., Fasc. i.-iii. This is a review which has just been established by the Catholic Union of Italy for the study of social science. According to the programme of the promoters the review is to be conducted in a spirit of completely subordinating science to faith, and of docile and unconditional obedience to the head of the Church. In fulfilment of this programme the editor, Prof. Talamo, starts off with an attack on the theory of evolution in general, and of Mr. Spencer's conception of Justice in particular. The article is entitled : " Justice in the Sociology of the Modern Evolutionists," and is chiefly interesting as an ultramontane statement of the case against the doctrine of development. The second article is called : " An Account of the Historical Origin of the present Social-economic Crisis ". Prof. Tonioli traces back this crisis to the Renaissance and the Reformation. He prophesies that it will continue till the supreme direction of civilisation is placed in the hands of the Papacy, and the world gets back to the lines of development which were shattered by the revival of learning. Prof. Milanese's article on the origin of the family is written to support Sir Henry Maine's contention that the patriarchal type of family life is the most ancient, the most universal, and the most constantly preserved. There are three methods of approaching this obscure problem : the ethnographical, the historical, and the method adopted by Mr. Tylor, of looking for survivals in civilisation of obsolescent and obsolete customs. Prof. Milanese does not even mention Mr. Taylor. Kovalevsky's able lectures on the origin and evolution of the family are also ignored, and justice is hardly done to the facts and arguments in favour of the matriarchal beginnings of the family. Prof. Bianchi contributes a very good article on the social importance of small holdings and the best means of preserving them. He considers the existence of a large number of peasant proprietors to be a highly consolidating force, and urges the Italians to alter their present laws of succession so as to prevent small properties from being too minutely divided.

X.—NOTES.

We have pleasure in publishing the following appeal to parents and teachers from Professor Sully :—

East Heath Road, Hampstead,
London, N.W., *May* 1893.

Professor Sully will be greatly obliged if parents or teachers of young children can supply him with facts bearing on the characteristics of the childish mind. What he especially desires is first-hand observations carried out on children during the first five or six years of life. Any action or saying which was considered worth recording will presumably have some significance as illustrating either common characteristics or the range of individual diversity among children. With the observation there should be given the sex of the child and the exact age at the time of the occurrence described, also, if possible, a reference to any facts of temperament, surroundings and previous experience which serve either to throw light on the observation, or on the other hand to make it appear extraordinary or exceptional. The points on which observations are more particularly desired are the following :—

1. Under *Attention and Observation.*—Illustrations of the special directions of early Attention and Interest (in looking, touching, &c.), and of the gradual widening of the field of observation. Instances of specially exact, as well as of hasty and inexact observation.

2. Under *Memory.*—Earliest manifestations of memory in recognising persons, &c. Facts going to show what things the child remembers best. Memory for out of the way facts, insignificant details, &c. Examples of strength of verbal memory in the child, as in noting the introduction of new words in the repetition of a familiar story or a poem.

3. Under *Imagination and Fancy.*—Instances of anthropormorphic fancy, child-myth and personification of nature. How the child spontaneously fills up the unknown in space and time. Instances of apparent falsehood resulting from a vivid imagination. Imagination as interfering with observation and producing "illusions of sense".

4. Under *Reasoning.*—First appearance of curiosity about the origin of things, of the child himself, of the Deity and so forth. Childish puzzles or the things which appear strange and set him thinking (*e.g.*, nature of dreams, the fact of his own previous non-existence, birth, &c.). Characteristic modes of childish explanation. How the child translates our explanations of things, and, generally, puts his own childish meaning into our words (*e.g.*, in misapprehension of descriptions, in misapplication of rules of conduct).

5. Under *Language.*—First use of articulate sounds, characteristic omissions, alterations, and transpositions of sounds in repeating words (*e.g.*, in use of "klam" for perambulator). Order of acquisition of different sounds. Invention of new word-sounds (*e.g.*, "mum" for eatable). Original applications of common words (*e.g.*, in calling the panting of a dog "puff, puff").

6. Under *Pleasure and Pain.*—First characteristic manifestations of pleasure and displeasure (smiling, frowning, &c. Instinctive and acquired likes and dislikes for persons, animals, toys, &c.). Favourite modes of amusement.

7. Under *Fear.*—First manifestations of fear, more especially of the dark, of animals, of big moving things, as the sea, &c. Any facts bearing on the question, whether such fears are instinctive or are due to individual experience, and to the suggestions of others.

8. Under *Self-feeling.*—Illustrations of childish feeling for self. Instances of self-pity, self-caressing, &c. Directions of childish vanity (dress, display of strength, &c.). Jealousy, how excited. Manifestations of a feeling of property in toys, &c.

9. Under *Sympathy, Affection.*—Examples of early feeling towards animals and human beings as bearing on question of innate sympathy. Facts illustrating the so-called cruelty of children (as pulling flies to pieces). Special provocatives of pity (*e.g.*, sight of dead animals).

10. Under *Artistic Taste.*—First crude manifestations of taste. Special preferences in the matter of colours, forms, rhythms of melody and verse, &c. Facts illustrating children's ideas of "prettiness," "grandeur," &c. First manifestations of laughter, how provoked. First clear indications of a sense of the comical or ludicrous in children.

11. Under *Moral and Religious Feeling.*—Earliest known examples of respect for authority (*e.g.*, ceasing to cry when spoken to in firm authoritative tone). First exercise of judicial function by the child in scolding (or commanding) others or himself. Facts throwing light on child's first conceptions of right and wrong. Illustrations of crude feeling of justice in little children. What especially excites a feeling of being injured or wronged. Illustrations of moral sensibility and of callousness.

12. Under *Volition.*—Imitation of others in words, gestures, &c. Illustrations of the effect of others' verbal suggestions on childish action. Examples of self-will, of defiance of commands. First manifestations of hesitation in acting and of self-restraint.

13. Under *Artistic Production.* — Spontaneous dramatic invention ('make-believe') in play. Original manual construction (building with bricks, &c.). Invention of stories. First drawings of animals, men, &c. (with fac-similes if possible). Noticeable grades of progress in these spontaneous drawings.

Aristotelian Society.—The Fourteenth Session of this Society came to a close on June 12th. The Annual Report of the Committee with suggestions for the work of the next session was approved, and the officers of the society re-elected. The first meeting of the new session was announced to take place on November 6th.

The second volume of the Society's *Proceedings* is almost ready. It will include the chief papers read in the thirteenth and fourteenth Sessions. Among these are three by the President, one on "Matter," another on "Mind," and a third on the "Philosophical Pons". What Mr. Hodgson calls the "philosophical pons" consists in "two central propositions" purporting to express "the indispensable minimum of philosophical thought, to contravene which involves the dephilosophising, so to speak, of the thought in which the contravention occurs". Proposition i. is that "there is no consciousness which does not reveal Being". Proposition ii. is that "there is no Being which is not revealed in consciousness". The proof of i. is based on the statement, (assumed to be self-evident), that consciousness is at least "awareness of a content". The word "awareness" seems to beg the question. Is not a purely sentient experience conceivable, which is merely variously modified without being aware of anything? The papers on "Matter" and on "Mind" supplement each other. In them Mr. Hodgson succeeds in formulating some of the most interesting points in his system with greater lucidity and circumspection than in his larger works. It is worth noting that in

the address on "Matter" he propounds a doctrine concerning the "positively unknown real conditions of matter" which we have difficulty in distinguishing, in respect of its substantial import, from the Kantian theory of the thing in itself. Kant also conceived his *Ding-an-sich* as "the unknown real condition of another thing which is known". Other papers of interest are "The Permanent Meaning of the Argument from Design," by B. Bosanquet; "Scotus Erigena De Divisione Naturæ," by Clement C. S. Webb; "A General Analysis of Presentations," by G. F. Stout; "The Nature of Force and Matter," by R. J. Ryle; "The Measurement of Space, Time and Matter," by Prof. A. G. Greenhill; "The Nature of the Subject," by A. J. Shand; "Psychology and Logic," by S. Alexander. The Symposia are specially attractive. The "Origin of the Perception of an External World" was discussed in a meeting held at Oxford, papers being contributed by the President and by Messrs. Bosanquet and Ritchie. It resolved itself into a triangular duel in which the President was exposed to the fire of both the other combatants. The question "Is the Distinction between 'Is' and 'Ought' Ultimate and Irreducible?" was debated at Cambridge. The discussion was introduced by Prof. Sidgwick, who was followed by Messrs. Muirhead, Stout, and Alexander. The centre of attack in this case was Mr. Alexander's Naturalism. In conclusion it may be worth while to say that the "Aristotelian Society" occupies a unique position as being the most considerable society in England devoted to the "Systematic Study of Philosophy," and that as such it scarcely arouses the interest or receives the support which it deserves. Applications for membership, and for information respecting the Society should be addressed to the Honorary Secretary, 22 Albemarle Street, London, W.

LOBATSCHEFFSKY MEMORIAL.

In October, 1893, just a century will have elapsed since the birth of the great Russian geometrician, Lobatscheffsky. We have received from the Physico-Mathematical Society of Kasan an appeal for subscriptions to a proposed memorial in his honour. According to the amount received, the memorial will take the form either of a prize for mathematical research, especially in those branches distinctively connected with the name of Lobatscheffsky, or of a bust to be erected in the buildings of the University of Kasan, to which he belonged. The proposal ought to meet with substantial support from students of Philosophy, as well as from Mathematicians. Lobatscheffsky's investigation of the nature of space and of the foundations of Geometry was of the highest value and interest to the Epistemologist.

NEWS FROM AMERICA.

The second meeting of the American Psychological Association was held at Philadelphia, under the auspices of the University at Pennsylvania, on December 27 and 28, 1892. The papers read were as follows: First session: (1) "Errors of Observation in Physics and in Psychology"; Prof. J. McK. Cattell: (2) "Certain Phenomena of Rotation"; Dr. H. Nichols: (3) "Tactile Estimates of Thickness"; Prof. E. Pace: (4) "Some Experiments upon the Æsthetics of Visual Form"; Prof. L. Witmer. Second session: (1) "Experimental Psychology at the World's Fair"; Prof. J. Jastrow: (2) "History and Prospects of Experimental Psychology in America"; President G. S. Hall. Third session: (1) "Note upon the Controversy regarding the Relation of the Intensity of the Stimulus to the Reaction-Time"; Prof. W. M.

Bryan: (2) "Minor Studies at the Psychological Laboratory of Clark University; Dr. E. C. Sanford: (3) "Das Psychologische Laboratorium zu Harvard University"; Prof. H. Münsterberg (4) "Preliminary Notes upon Psychological Tests in the Schools of Springfield, Mass."; Prof. W. M. Bryan. Fourth session: (1) "Experiments upon Pain"; Dr. H. Nichols: (2) "Exhibition of Instruments"; Dr. E. C. Sanford: (3) "Psychology and Anthropology"; Dr. Chamberlain: (4) "Causation"; Prof. Aikens: (5) "Investigations of Reaction-Times of Various Classes of Persons": Prof. L. Witmer. The chair was taken by President G. S. Hall. Among members present, who took part in discussion, were Profs. Baldwin, Krohn, Ladd, and Titchener. It was decided, at a general business meeting, that official accounts of the Proceedings of the Association should be published in the *American Journal of Psychology*.

The American Psychical Society, "organised for the scientific investigation of the phenomena of modern spiritualism"—not by any means to be confused with the American Psychological Association—has started a Quarterly under the name of the *Psychical Review*. Dr. Wallace and Prof. Lodge are made the most of, and the articles deal largely with "psychometry" and "psychography".

Professor Baldwin of Toronto has been appointed to the "Stuart Professorship of Psychology" in Princeton University (New Jersey). He will assume the duties of his new position in September, 1893.

THE LATE PROFESSOR MINTO.

William Minto was born on the 10th October, 1845, at the farm of Nether Auchintoul, Alford, Aberdeenshire. He received his early education at Gallowhill School, near Alford, and at the Gordon Schools, Huntly, from which institution he went to the University of Aberdeen in 1861, having gained a bursary of £15. At the University he took a distinguished place in all his classes, graduating in 1865 with 1st class honours in Classics, and 2nd class honours in both Mathematics and Mental Philosophy—a triple distinction unique in the annals of the University. Of the annual money prizes he gained the Simpson Greek Prize of £65, the Hutton Prize of £35 (for Classics and Philosophy), and the Boxill Mathematical Prize of £28. Later in the same year he carried off the Fullerton Scholarship (for Classics and Mental Philosophy) value £100, as well as the Ferguson Scholarship (for Classics) value £80, each tenable for two years. He studied divinity at Aberdeen for one session, 1865-6.

In 1866 he was elected to an exhibition at Merton College, Oxford, but left without taking a degree. Returning to Aberdeen he was appointed Assistant-Professor of Natural Philosophy, which office he held for several months of the session 1866-7, after which he became assistant to Professor Bain, helping him not only with the work of the English class but with other literary work as well. In 1869 he published a pamphlet entitled *The Claims of Classical Studies, àpropos* of the place of classics in University education.

From 1872-5 he held the Examinership in Mental Science in the University of Aberdeen. In 1872 appeared his *Manual of English Prose Literature*, which was followed two years later by *Characteristics of English Poets, from Chaucer to Shirley*. These two works, the result of much labour and wide reading, at once established his reputation in the field of literary criticism.

In 1874 he became first literary editor, and afterwards editor of the *Examiner*, which post he held till 1878. In his capacity of editor he spared neither time nor pains, and was successful in gathering round him

a brilliant staff; but the *Examiner* after passing to another proprietor finally died in 1880. For two years after the severance of his connexion with the *Examiner* he worked first on the staff of the *Daily News* and then on the *Pall Mall Gazette.*

In 1879 appeared his well-known monograph on *Defoe* in the English Men of Letters Series, which still further enhanced his reputation as a critic.

In 1880, when Professor Bain retired from the Chair of English Literature in the University of Aberdeen, Minto was appointed to the vacancy, and continued to discharge the duties of the chair till his death.

In the field of fiction he has left three efforts of his pen. His first novel, *The Crack of Doom*, appeared in *Blackwood*, and was reprinted in book form in 1886. This was followed in 1888 by *The Mediation of Ralph Hardelot*, a historical sketch of Wat Tyler's Rebellion, which appeared in *The English Illustrated Magazine*. *Was she Good or Bad?* a semi-psychological study, was published in 1889, but none of these can be said to be of permanent interest.

To such magazines as *Blackwood*, *The Fortnightly Review*, *Macmillan*, *The Nineteenth Century*, &c., Professor Minto was a frequent contributor.

The numerous critical and biographical articles on English writers which he contributed to the *Encyclopædia Britannica* afford ample evidence of his soundness of judgment and literary acumen.

In 1892, he edited the *Autobiography of William Bell Scott*, the publication of which gave occasion for hostile criticism of his work as editor, from the author's outspoken criticisms of living persons. In the same year the University of St. Andrews conferred on him the Degree of LL.D.

Since his death there have appeared *Plain Principles of Prose Composition* (Blackwood's), and *Logic, Inductive and Deductive*, written for Mr. Murray's University Extension Series, the latter volume embracing the fruit of his thirteen years' work in the Chair of Logic.

For some years Professor Minto's health had been gradually giving way under the severe strain of constant overwork. In the summer of 1891, after a bronchitic attack, he went on a voyage to Greece, from which he returned greatly invigorated, but his system never fully recovered. During the Christmas vacation he caught a chill, and when the classes resumed he went to college to lecture, with the result that a relapse set in, from which he was unable to rally, and he passed away on the morning of the 1st of March, at the early age of 47.

As a professor he was exceedingly popular with the undergraduates, and with his colleagues in the Senatus. Ample evidence of the love and esteem in which he was held is to be found in the special number of *Alma Mater*, the students' magazine, which was published after his death. His popularity with the people of Aberdeen was attested by the immense concourse that lined the route of the long procession of students, professors, and general public that followed his remains to their last resting place in Allenvale Cemetery.

Professor Minto married in 1880, Cornelia B. Griffiths, daughter of the late Rev. Mr. Griffiths, Rector of Swindon, Wilts, and niece of Professor Bain, by whom, and by a family of two boys and a girl, he is survived.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—A CRITICISM OF CURRENT IDEALISTIC THEORIES.[1]

By Arthur James Balfour.

The difficulties in the way of an empirical philosophy of science largely arise from the conflict which exists between two parts of a system, the scientific half of which requires us to regard experience as an effect of an external and independent world, while the philosophic or epistemological half offers this same experience to us as the sole groundwork and logical foundation on which any knowledge whatever of an external and independent world may be rationally based. These difficulties and the arguments founded on them require to be urged in the first instance in opposition to those who explicitly hold what I may call the 'naturalistic' creed; and then to that general body of educated opinion, which, though reluctant to contract its beliefs within the narrow circuit of 'naturalism,'

[1] The following article is (as appears plainly from its opening paragraphs) a chapter extracted from an as yet unfinished book, not especially designed for philosophic readers. I am aware that this makes it in some respects unsuitable for such a Journal as Mind. As, however, it puts with great brevity, and with as much clearness as I can command, certain fundamental difficulties which appear to me to attach to the ordinary presentation of the idealistic view, I have thought it not impossible that it might interest some readers of this Review.—A. J. B.

yet habitually assumes that there is presented to us in science a body of opinion, certified by reason, solid, certain, and impregnable, to which theology adds, as an edifying but purely voluntary supplement, a certain number of dogmas, of which the well-disposed assimilate as many, but only as many, as their superior allegiance to "positive" knowledge will permit them to digest.

These two classes, however, by no means exhaust the kinds of opinion with which it is necessary to deal. And in particular there is a metaphysical school, few indeed in numbers but none the less important in matters speculative, whose general position is wholly distinct and independent; who would indeed not perhaps very widely dissent from the negative conclusions already reached,[1] but who have their own positive solution of the problem of the Universe. In their opinion all the embarrassments which may be shown to attend on the empirical philosophy are due to the fact that empirical philosophers wholly misunderstand the essential nature of that experience on which they profess to found their beliefs. The theory of perception evolved by Locke, Berkeley, and Hume, which may be traced without radical modification through their modern successors, is, according to the school of which I speak, at the root of all the mischief. Of this theory they make short work. They press to the utmost the sceptical consequences to which it inevitably leads. They show or profess to show that it renders not only scientific knowledge, but any knowledge whatever, impossible; and they offer as a substitute a theory of experience, very remote indeed from ordinary ways of thinking, and yet more remote from ordinary modes of expression, by which these consequences may in their judgment be entirely avoided.

The dimensions and character of these notes render it impossible, even were I adequately equipped for the task, to deal fully with so formidable a subject as TRANSCENDENTAL IDEALISM, either in its historical or its metaphysical aspect. Remote though it be from ordinary modes of thought, some brief discussion of the theory with which it supplies us concerning Nature and God is however absolutely necessary; and I therefore here present it to the philosophical reader with apologies for brevity, and to the unphilosophic reader with apologies for length.

From what I have already said it is clear that the theory

[1] See footnote, previous page.

to which Transcendental Idealism may be, from our point of view, considered as a reply, is *not* the theory of experience which is taken for granted in ordinary scientific statement, but the closely allied 'psychological theory of perception' evolved by thinkers usually classed rather as philosophers than as men of science. The difference is not wholly immaterial, as will appear in the sequel.

What then is this 'psychological theory of perception'? Or rather where is the weak point in it at which it is open to attack by the transcendental idealists? It lies in the account given by that theory of the *real*. According to this account the 'real' in external experience, that which, because it is not due to any mental manipulation by the percipient, such as abstraction or comparison, may be considered as the *experienced fact*, is, in ultimate analysis, either a sensation or a group of sensations. These sensations and groups of sensations are subjected in the mind to a process of analysis and comparison. Discrimination is made between those which are unlike. Those which have points of resemblance are called by a common name. The sequences and coexistences which obtain among them are noted; the laws by which they are bound together are discovered; and the order in which they may be expected to recur is foreseen and understood.

Now, say the Idealists, if everything of which external reality can be predicated is thus either a sensation or the idea of a sensation, if these and these only are 'given' in experience, everything else, including relations, being mere fictions of the mind, we are reduced to the absurd position of holding that the real is not only unknown but is also unknowable. For a brief examination of the nature of experience is sufficient to prove that an unrelated 'thing,' be that thing a sensation or a group of sensations, which is not qualified by its resemblance to other things, its difference from other things, and its connexion with other things, is really, so far as we are concerned, no "thing" at all. It is not an object of possible experience; its true character must be for ever hid from us: or rather, as character consists simply in relations, it *has* no character, nor can it form part of that intelligible world with which alone we have to deal.

Ideas of relation are therefore required to convert the supposed 'real' of external experience into something of which experience can take note. But such ideas themselves are unintelligible except as the results of the intellectual activity of some 'self' or 'I'. They must be somebody's thought, somebody's ideas; if only for the purpose of mutual

comparison there must be some bond of union between them other than themselves. Here again, therefore, the psychological analysis of experience breaks down, and it becomes plain that just as the real in external experience was real only in virtue of mental facts, ideas of relation (categories), through which it was apprehended; so in internal experience ideas and sensations presuppose the existence of an 'I,' or self-conscious unity, which is neither sensation nor idea, which ought not therefore on the psychological theory to be considered as having any claim to reality at all, but which nevertheless is presupposed in the very possibility of phenomena appearing as elements in a single experience.

We are thus apparently left face to face with a mind (thinking subject) which is the source of relations (categories), and a world which is constituted by relations: with a mind which is conscious of itself, and a world of which that mind may without metaphor be described as the creator. We have in short reached the central position of Transcendental Idealism. But before we proceed to subject the system to any critical observations, let us ask what it is we are supposed to gain by endeavouring thus to *rethink* the universe from so unaccustomed a point of view.

In the first place, then, it is claimed for this theory that it frees us from the scepticism which, in matters scientific as well as in matters theological, follows inevitably upon the psychological doctrine of perception as just explained: a scepticism which not only leaves no room for God and the soul, but destroys the very possibility of framing any general proposition about the 'external' world, by destroying the possibility of there being any world, 'external' or otherwise, in which permanent relation shall exist.

In the second place, it makes Reason no mere accidental excrescence on a universe of material objects; an element to be added to, or subtracted from, the sum of 'things' as the blind shock of unthinking causes may decide. Rather does it make Reason the very essence of all that is or can be: the (immanent) cause of the world process; its origin and its goal.

In the third place, it professes to establish on a firm foundation the moral freedom of self-conscious agents. That 'self' which is the prior condition of there being a natural world cannot be the creature of that world. It stands above and beyond the sphere of causes and effects; it is no mere object among other objects, driven along its predestined course by

external forces in obedience to alien laws. On the contrary, it is a free, autonomous spirit, not only bound, but able, to fulfil the moral commands which are but the expression of its own most essential being.

I am reluctant to suggest objections to any theory which promises results so admirable. Yet I cannot think that all the difficulties with which it is surrounded have been fairly faced, or at any rate fully explained by those who accept its main principles. Consider for example the crucial question of the analysis which reduces all experience to an experience of relations: or in more technical language which constitutes the universe out of categories. We may grant without difficulty that the contrasted theory which proposes to reduce the universe to an unrelated chaos of impressions or sensations is quite untenable. But must we not also grant that in all experience there is a refractory element which, though it cannot be presented in isolation, nevertheless refuses wholly to merge its being in a network of relations, necessary as these may be to give it "significance for us as thinking beings"? If so, whence does this irreducible element arise? The mind, we are told, is the source of relation. What is the source of that which is related? A 'thing-in-itself' which, by impressing the percipient mind, shall furnish the 'matter' for which categories provide the 'form' is a way out of the difficulty (if difficulty there be) which raises more doubts than it solves. The followers of Kant themselves make haste to point out that this hypothetical cause of that which is 'given' in experience cannot, since *ex hypothesi* it lies beyond experience, be known as a cause, or even as existing. Nay, it is not so much unknown and unknowable, as indescribable and unintelligible: not so much a riddle whose meaning is obscure, as mere absence and vacuity of any meaning whatever. Accordingly, from the speculations with which we are here concerned it has been dismissed with ignominy, and it need not therefore detain us further.

But we do not get rid of the difficulty by getting rid of Kant's solution of it. His dictum still seems to me to remain true that 'without matter categories are empty'. And indeed it is hard to see how it is possible to conceive a universe in which relations shall be all in all, but in which nothing is to be permitted for the relations to subsist between. Relations surely imply a something which is related, and if that something is, in the absence of relations, "nothing for us as thinking beings"; so relations in the absence of that something are mere symbols emptied of

their signification; they are, in short, an 'illegitimate abstraction'.

Those moreover who hold that these all-constituting relations are the 'work of the mind,' would seem bound also to hold that this concrete world of ours, down to its minutest detail, should evolve itself *a priori* out of the movement of 'pure thought'. There is no room in it for the 'contingent'; there is no room in it for the 'given'; experience itself would seem to be a superfluity. And we are at a loss therefore to understand why that dialectical process which moves I will not say so convincingly, but at least so smoothly, through the abstract categories of 'being,' 'not-being,' 'becoming' and so forth, should stumble and hesitate when it comes to deal with that world of Nature, which is after all one of the principal subjects about which we desire information. No explanation which I remember to have seen makes it otherwise than strange that we should, as the Idealists claim, be able so thoroughly to identify ourselves with those thoughts of God which are the necessary preliminary to creation, but should so little understand creation itself: that we should out of our unaided mental resources be competent to reproduce the whole ground-plan of the universe, and should yet lose ourselves so hopelessly in the humblest of its ante-rooms.

This difficulty at once requires us to ask on what ground it is alleged that these constitutive relations are the 'work of the mind'. That Kant should say so was natural, and indeed inevitable. He conceived the world of experience to be illumined by the combined action of two invisible opposites, the 'thing-in-itself' on the one side, the 'I' or self (pure ego of apperception) on the other; the 'matter' produced by the action of the first Unknown, in union with the 'form' contributed by the second Unknown, making up the knowable. But, as I have already indicated, the idealist followers of Kant object to this ascription of causal energy to that which is outside the field of possible experience. Causation is a kind of relation (category) which they say is valid within that field but illegitimate and even meaningless without it. Now this may be a good argument enough, but if it be good when we are dealing with the 'thing-in-itself' it must surely be also good when we are dealing with the 'pure ego of apperception'; if it is conclusive against the claims of the first to produce the 'matter' of thought, it must be conclusive also against the claims of the second to produce its 'forms'.

It is true no doubt that ordinary usage would describe as

mental products the more abstract thoughts (categories), such for example as 'being,' 'not-being,' 'causation,' 'reciprocity,' &c. But it must be recollected in the first place that Transcendental Idealism does not as a rule derive its inspiration from ordinary usage; and in the second place, that even ordinary usage alters its procedure when it comes to such more concrete cases of relation as, for instance, 'shape' and 'position,' which rightly or wrongly are always considered as belonging to the 'external' world, and presented by the external world to thought, not created by thought for itself.

Are the Transcendental Idealists then bound by their own most essential principles, in opposition both to their arguments against Kant's 'thing-in-itself' and to the ordinary beliefs of mankind, to invest the thinking 'self' with this attribute of causal or *quasi*-causal activity? It certainly appears to me that they are *not*. Starting it will be recollected from the analysis (criticism) of experience, they arrived at the conclusion that the world of objects exists and has a meaning only for the self-conscious 'I' (subject), and that the self-conscious 'I' only knows itself in contrast and in opposition to the world of objects. Each is necessary to the other; in the absence of the other neither has any significance. How then can we venture to say of one that the other is its product? and if we say it of either must we not in consistency insist on saying it of both? Thus, though the presence of a self-conscious principle may be necessary to constitute the universe, it cannot be considered as the creator of that universe: or if it be, then must we acknowledge that precisely in the same way and precisely to the same extent is the universe the creator of the self-conscious principle.

All therefore that the Transcendental argument requires, or even allows us to accept, is a 'manifold' of relations and a bare self-conscious principle of unity by which that manifold becomes inter-connected in the field of a single experience. We are not permitted except by a process of abstraction, which is purely temporary and provisional, to consider the 'manifold' apart from the 'unity,' nor the 'unity' apart from the 'manifold'. The thoughts do not make the thinker, nor the thinker the thoughts: but together they constitute that whole or Absolute, whose elements, as they are mere no-sense apart from one another, cannot in strictness be even said to contribute separately towards the total result.

Now let us consider what bearing this conclusion has upon (1) Theology, (2) Ethics, and (3) Science.

(1) As regards Theology, it might be supposed that at least Idealism provided us with a universe which, if not created or controlled by reason (creation and control implying causal action), may yet properly be said to be throughout infused by reason and to be in necessary harmony with it. But on a closer examination difficulties arise which somewhat mar this satisfactory conclusion. In the first place, if theology is to provide us with a groundwork for religion the God of whom it speaks must be something more than the bare 'principle of unity' required to give coherence to the multiplicity of Nature. Apart from Nature He is, on the theory we are considering, a mere metaphysical abstraction, the geometrical point through which pass all the threads which make up the web of possible experience: no fitting object surely of either love, reverence, or devotion. In combination with Nature He is no doubt 'the principle of unity,' and all the fulness of concrete reality besides: but every quality with which He is thus associated belongs to that portion of the Absolute Whole from which, by hypothesis, He distinguishes Himself; and, were it otherwise, we cannot find in these qualities, compacted as they are of good and bad, of noble and base, the Perfect Goodness without which religious feelings can never find an adequate object. Thus neither the combining Principle alone, nor the combining Principle considered in its union with the multiplicity which it combines, can satisfy the requirements of an effectual Theology. Not the first, because it is a barren abstraction; not the second, because in its all-inclusive universality it holds in suspension, without preference and without repulsion, every element alike of the knowable world. Of these none, whatever be its nature, be it good or bad, base or noble, can be considered as alien to the Absolute: all are necessary, and all are characteristic.

Of these two alternatives I understand that it is the first which is usually adopted by the school of thought with whom we are at present concerned. It may therefore be desirable to reiterate that a 'unifying principle' can, as such, have no qualities, moral or otherwise. Lovingness, for example, and equity are attributes which, like all attributes, belong not to the unifying principle, but to the world of objects which it constitutes. They are conceptions which belong to the realm of empirical psychology. Nor can I see any method by which they are to be hitched on to the 'Pure Spiritual Subject' as elements making up its essential character.

(2) But if this be so, what is the ethical value of that freedom which is attributed by the Idealistic theory to the self-conscious 'I'? It is true that this 'I' as conceived by Idealism is above all the 'categories,' including of course the category of causation. It is not in space nor in time. It is subject neither to mutation nor decay. The stress of material forces touches it not, nor is it in any servitude to chance or circumstance, to inherited tendencies or acquired habits. But all these immunities and privileges it possesses in virtue of its being *not* an agent in a world of concrete fact, but a thinking 'subject' for whom alone, as it is alleged, such a world exists. Its freedom is metaphysical not moral; for moral freedom can only have a meaning at all in reference to a being who acts and who wills: and is only of real importance for us in relation to a being who not only acts but is acted on, who not only wills but who wills against the opposing influences of temptation. Such freedom cannot, it is plain, be predicted of a mere 'subject,' nor is the freedom proper to a 'subject' of any worth to man as 'object,' to man as known in experience, to man fighting his way with varying fortunes against the stream of adverse circumstances, in a world made up of causes and effects.[1]

[1] This proposition would probably not be widely dissented from by some of the ethical writers of the Idealist School. The freedom which they postulate is not the freedom merely of the pure self-conscious subject. On the contrary, it is the individual, with all his qualities, passions and emotions, who in their view possesses free will. But the ethical value of the freedom thus attributed to self-conscious agents seems on further examination to disappear. Mankind it seems are on this theory free, but their freedom does not exclude determinism, *but only that form of determinism which consists in external constraint.* Their actions are upon this view strictly prescribed by their antecedents, but these antecedents are nothing other than the characters of the agents themselves.

Now it may seem at first sight plausible to describe that man as free whose behaviour is due to 'himself' alone. But without quarrelling over words, it is I think plain that whether it be proper to call him free or not, he at least lacks freedom in the sense in which freedom is necessary in order to constitute responsibility. It is impossible to say of him that he 'ought' and therefore he 'can'. For at any given moment of his life his next action is by hypothesis strictly determined. This is also true of every previous moment until we get back to that point in his life's history at which he cannot in any intelligible sense of the term be said to have a character at all. Antecedently to this the causes which have produced him are in no special sense connected with his individuality, but form part of the general complex of phenomena which make up the world. It is evident therefore that every act which he performs may be traced to pre-natal and possibly to purely material antecedents, and that even if it be true that what he does is the

These observations bring into sufficiently clear relief the difficulty which exists on the Idealistic theory in bringing together into any sort of intelligible association the 'I' as supreme principle of unity, and the 'I' of empirical Psychology, which has desires and fears, pleasures and pains, faculties and sensibilities; which *was not* a little time since, and which a little time hence will be no more. The 'I' as principle of unity is outside time: it can have therefore no history. The 'I' of experience, which learns and forgets, which suffers and which enjoys, unquestionably has a history. What is the relation between the two? We seem equally precluded from saying that they are the same and from saying that they are different. We cannot say that they are the same because they are after all divided by the whole chasm which distinguishes 'subject' from 'object'. We cannot say they are different because our feelings and our desires seem a not less interesting and important part of ourselves than a mere unifying principle whose functions after all are of a purely metaphysical character. We cannot say they are 'two aspects of the same thing' because there is no virtue in this useful phrase which shall empower it on the one hand to ear-mark a fragment of the world of objects and say of it 'this is I'; or on the other to take the 'pure subject,' by which the world of objects is constituted, and say of it that it shall be itself an object in that world, from which its essential nature requires it to be self-distinguished.

But as it thus seems difficult or impossible intelligibly to unite into a personal whole the 'pure' and the 'empirical' self, so it is difficult or impossible to conceive the relations between the pure, though limited, self-consciousness which is 'I,' and the universal and eternal self-consciousness which is God. The first has been described as a 'mode' or 'manifestation' of the second. But are we not in using such language falling into the kind of error against which, in other connexions, the idealists are most careful to warn us: are we not importing a category which has its meaning and its use in the world of objects, into a transcendental region where it really has neither meaning nor use at all? Grant, however, for the sake of argument, that it has a

outcome of his character, his character itself is the outcome of causes over which he has not, and cannot by any possibility have, the smallest control. Such a theory destroys responsibility, and leaves our actions the inevitable outcome of external conditions not less completely than any doctrine of controlling fate, whether materialistic or theological.

meaning; grant that we may legitimately describe one 'pure subject' as a 'mode' or 'manifestation' of another—how is this partial identity to be established? How can we, who start from the basis of our own limited self-consciousness, rise to the knowledge of that completed and divine self-consciousness of which according to the theory we share the essential nature?

The difficulty is evaded but not solved in those statements of the Idealist theory which always speak of Thought without specifying *whose* thought. It seems to be thus assumed that the thought is God's, and that in rethinking it we share His being. But no such assumption would seem to be justifiable. For the basis, we know, of the whole theory is a 'criticism' or analysis of the essential elements of experience. But the criticism must, for each of us, be necessarily of *his own* experience, for of no other experience can he know anything except indirectly and by way of inference from his own. What then is this criticism supposed to establish (say) for me? Is it that experience depends upon the unification by *a* self-conscious 'I' of a world constituted by relations? In strictness, No. It can only establish that *my* experience depends upon a unification by *my* self-conscious 'I' of a world of relations present to *me*, and to me alone. To this 'I,' to this particular 'self-conscious subject,' all other 'I's,' including God, must be objects, constituted like all objects by relations, rendered possible or significant only by their unification in the 'content of a single experience'—namely, my own. In other words, that which (if it exists at all) is essentially 'subject' can only be known or thought of or spoken about as 'object'. Surely a very paradoxical conclusion.

It may perhaps be said by way of reply that in talking of particular 'I's,' and particular experiences, we are using language properly applicable only to the 'self' dealt with by the empirical psychologist, the 'self' which is not the 'subject' but the 'object' of experience. I will not dispute about terms: and the relations which exist between the 'pure ego' and the empirical 'ego' are, as I have already said, so obscure that it is not always easy to employ a perfectly accurate terminology in endeavouring to deal with them. Yet this much would seem to be certain. If the words 'self,' 'ego,' 'I,' are to be used intelligibly at all they must mean, whatever else they do or do not mean, a 'somewhat' which is self-distinguished not only from every other knowable object but also from every other possible self.

What we are 'in ourselves,' apart from the flux of thoughts and feelings which move in never-ending pageant through the chambers of consciousness, metaphysicians have indeed found it hard to say. Some of them have said we are nothing. But if this conclusion be, as I think it is, conformable neither to our instinctive beliefs nor to a sound psychology; if we are, as I believe, more than a mere series of occurrences, yet it seems equally certain that the very notion of personality excludes the idea of any one person being a 'mode' or 'manifestation' of any other, and forces us to reject from philosophy a supposition which, if it be tolerable at all, can find a place only in mysticism.

But the idealistic theory pressed to its furthest conclusions requires of us to reject, as it appears to me, even more than this. We are not only precluded by it from identifying ourselves even partially with the Eternal Consciousness; we are also precluded from supposing that either the eternal consciousness or any other consciousness exists save only our own. For, as I have already said, the eternal consciousness, if it is to be known, can only be known on the same conditions as any other object of knowledge. It must be constituted by relations: it must form part of the 'content of experience' of the knower: it must exist as part of the 'multiplicity' reduced to 'unity' by his self-consciousness. But to say that it can only be known on these terms is to say that it cannot be known as it exists; for if it exists at all it exists by hypothesis as Eternal Subject, and as such it clearly is not constituted by relations, nor is it either a possible object of experience, or anything for us as thinking beings.

No consciousness, then, is a possible object of knowledge for any other consciousness; a statement which on the Idealistic theory of knowledge is equivalent to saying that for any one consciousness all other consciousnesses are less than non-existent. For as that which is 'critically' shown to be an inevitable element in experience has thereby conferred on it the highest possible degree of reality, so that which cannot on any terms become an element in experience falls in the scale of reality far below mere not-being, and is reduced, as we have seen, to mere meaningless no-sense. By this kind of reasoning the Idealists themselves demonstrate the 'I' to be necessary; the unrelated object and the thing-in-itself to be impossible. Not less by this kind of reasoning must each one of us severally be driven to the conclusion that in the infinite variety of the

universe there is room for but one knowing subject and that this subject is 'himself'.[1]

(3) That the Transcendental 'solipsism' which is the natural outcome of such speculations is not less inconsistent with science, morality, and common-sense, than the psychological, or Berkeleian[2] form of the same creed, is obvious. But without attempting further to press idealism to results which, whether legitimate or not, all idealists would agree in repudiating, let me in conclusion point out how little assistance this theory is able under any circumstances to afford us in solving important problems connected with the Philosophy of Science.

The psychology of Hume, as we have seen, threw doubt upon the very possibility of legitimately framing general propositions about the world of objects. The observation of isolated and unrelated impressions of sense, which is in effect what experience became reduced to under his process of analysis, may generate habits of expectation but never can justify rational beliefs. The law of universal causation, for example, can never be proved by a mere repeti-

[1] Prof. Caird, in his most interesting and suggestive lecture on the Evolution of Religion, puts forward a theory essentially different from the one I have just been dealing with. In his view a multiplicity of objects apprehended by a single self-conscious subject does not suffice to constitute an intelligible universe. The world of objects and the perceiving mind are themselves opposites which require a higher unity to hold them together. This higher unity is God; so that by the simplest of metaphysical demonstrations Prof. Caird lays deep the foundations of his theology, and proves not only that God exists, but that His Being is philosophically involved in the very simplest of our experiences.

I confess with regret that this reasoning appears to me inconclusive. Surely we must think of God as, on the transcendental theory, we think of ourselves; that is as a Subject distinguishing itself from, but giving unity to a world of phenomena. But if such a Subject and such a world cannot be conceived without also postulating some higher unity in which their differences shall vanish and be dissolved, then God Himself would require some yet higher deity to explain His existence. If, in short, a multiplicity of phenomena presented to and apprehended by a conscious 'I' form together an intelligible and self-sufficient whole, then it is hard to see by what logic we are to get beyond the solipsism which, as I have urged in the text, seems to be the necessary outcome of one form at least of the transcendental argument. If, on the other hand, subject and object cannot form such an intelligible and self-sufficient whole, then it seems impossible to imagine what is the nature of that Infinite One in which the multiplicity of things and persons find their ultimate unity. Of such a God we can have no knowledge, nor can we say that we are formed in His image, or share His essence.

[2] Of course I do not mean to suggest that Berkeley was a 'solipsist'. On the scientific bearing of psychological idealism see *Philosophic Doubt*, chap. ix.

tion, however prolonged, of similar sequences, though the repetition may, through the association of ideas, gradually compel us to expect the second term of the sequence whenever the first term comes within the field of our observation. So far Hume as interpreted by the Transcendental Idealists.

Now how is this difficulty met on the Idealistic theory? Somewhat in this way. These categories or general principles of relation have not, say the Idealists, to be collected (so to speak) from individual and separate experiences (as the empirical philosophers believe, but as Hume, the chief among empiricists, showed to be impossible); neither are they, as the *a priori* philosophers supposed, part of the original furniture of the observing mind, intended by Providence to be applied as occasion arises to the world of experience with which by a beneficent, if unexplained, adaptation they find themselves in a pre-established harmony. On the contrary, they are the 'necessary *prius*,' the antecedent condition, of there being any experience at all; so that the difficulty of subsequently extracting them from experience does not arise. The world of phenomena is in truth their creation; so that the conformity between the two need not be any subject of surprise. Thus at one and the same time does Idealism vindicate experience and set the scepticism of the empiricist at rest.

I doubt, however, whether this solution of the problem will really stand the test of examination. Assuming for the sake of argument that the world is constituted by 'categories,' the old difficulty arises in a new shape when we ask on what principle those categories are in any given case to be applied. For they are admittedly not of universal application, and, as the Idealists themselves are careful to remind us, there is no more fertile source of error than the importation of them into a sphere wherein they have no legitimate business. Take, for example, the category of causation, from a scientific point of view the most important of all. By what right does the existence of this 'principle of relation' enable us to assert that throughout the whole world every event must have a cause and every cause must be invariably succeeded by the same event? Because we *can* apply the category, are we therefore *bound* to apply it? Does any absurdity or contradiction ensue from our supposing that the order of Nature is arbitrary and casual, and that, repeat the antecedent with what accuracy we may, there is no security that the accustomed consequent will follow? I must confess that I can perceive none. Of course one

'principle of unification' would thus be found inapplicable: but this would by no means result in the universe resolving itself into that unthinkable chaos of unrelated atoms which is the idealist bugbear. There are plenty of categories left; and if the final aim of philosophy be indeed to find the Many in One and the One in Many, this end would be as completely, if not as satisfactorily, accomplished by conceiving the world to be presented to the thinking 'subject' in the haphazard multiplicity of unordered succession, as by any more elaborate method. Its various elements lying side by side in one Space and one Time would still be related together in the content of a single experience, they would still form an intelligible whole, their unification would thus be effectually accomplished without the aid of the higher categories. But it is evident that a universe so constituted, though it might not be inconsistent with philosophy, could never be interpreted by Science.

As we saw in the earlier portion of this chapter, it is not very easy to understand why, if the universe be constituted by relations and relations are the work of the mind, the mind should be dependent on experience for finding out anything about this universe. But granting the necessity of experience, it seems as hard to make it answer our questions on the Idealist as on the Empirical hypothesis. Neither on the one theory nor on the other does any method exist for extracting general truths out of particular observations, unless *some* general truths are first assumed. On the Empirical hypothesis there are no such general truths. Pure empiricism has therefore no claim to be a philosophy. On the Idealist hypothesis there appears to be only one general truth applicable to the whole intelligible world—a world which, be it recollected, includes everything in respect to which language can be significantly used; a world which therefore includes the negative as well as the positive, the false as well as the true, the imaginary as well as the real, the impossible as well as the possible. This single all-embracing truth is that the multiplicity of phenomena, whatever be its nature, must always be united, and only exists in virtue of being united, in the experience of a single self-conscious subject. But this general proposition, whatever be its value, cannot, I conceive, effectually guide us in the application of subordinate categories. It supplies us with no method for applying one principle rather than another within the field of experience. It cannot give us information as to what portion of that field, if any, is subject to the law of causation: nor tell us which of our perceptions,

if any, may be taken as evidence of the existence of a permanent world of objects such as is implied in all scientific doctrine. Though therefore the old questions come upon us in a new form, clothed, I will not say shrouded, in a new terminology, they come upon us with all the old insistence. They are restated but they are not solved: and I am unable therefore to find in Idealism any escape from the difficulties which, in the region of Theology, Ethics, and Science, empiricism leaves upon our hands.[1]

[1] I have made in this chapter no reference to the Idealistic theory of Æsthetics. Holding the views I have indicated upon the general import of Idealism, such a course seemed unnecessary. But I cannot help thinking that even those who find in that theory a more satisfactory basis for their convictions than I am able to do, must feel that there is something rather forced and arbitrary in the attempts that have been made to exhibit the artistic fancies of an insignificant fraction of the human race during a very brief period of its history as essential and important elements in the development and manifestation of the 'Idea'.

II.—ON THE NATURE OF LOGICAL JUDGMENT.[1]

By E. E. C. Jones.

If one takes such a statement as *The red octavo volume on the chess-table is bound in Russia leather*, and inquires what is the thought, the 'mental equivalent,' that would normally correspond to it and that is naturally expressed by it, the answer I should be disposed to give would be somewhat as follows:—I see, or merely think of, an object having the characteristics of being a red book on the chess-table, octavo in size, bound in Russia leather. In order to indicate or point out this object I speak of it as *the red octavo volume on the chess-table*. In order to emphasise the remaining characteristic, as a characteristic of this indicated object, I both isolate it and refer it to the object by making *bound in Russia leather* a Predicate of *the red octavo &c. volume*. I make an explicit analysis in synthesis. The analysis is indicated by the separation of terms, the synthesis by the affirmative copula. The copula indicates the synthesis by signifying that S (*The red &c. volume*) and P (*bound in Russia leather*) have an identical application, refer to the very same object. Both Subject and Predicate have Application, *i.e.*, they are names of something (whether *Attribute of a Subject*, or, as here, *Subject of Attributes*), and both have Signification, *i.e.*, they imply Characteristics. Unless both Terms had Application (and identical Application) the copula would be futile, could not perform its function; unless both had Signification[2] (and diverse Signification) the separation of Terms would be unmeaning, there would be no analysis but only bare and meaningless repetition. At the same time, the two aspects are differently emphasised in the two Terms; in the Subject it is the Application-aspect that is prominent, and the Subject (in affirmatives) *fixes* the Application of the Predicate. In the sentence under discussion, *e.g.*, the Application of *bound in Russia leather*, is fixed and limited by the Application of the Subject; the Application of *bound in Russia leather*, in this proposition, is to *the octavo volume* pointed out by the Subject, and to that only.

[1] I should perhaps remark that in what follows I am only attempting to deal with what are commonly called Categorical Judgments.

[2] I use *Signification* to cover both *Connotation* and *Intension* in Dr. Keynes's sense. *Cf.* his *Formal Logic*, p. 27, 2nd edition.

There may be plenty of *other* objects bound in Russia leather, but it is not to any of *them* that the Predicate of *this* Proposition applies. In the Predicate, on the other hand, it is the *Signification* that is prominent, the Application (as we have already seen) has been fixed once for all by the Subject, there can be no further question about that. It remains, then, that it is for the sake of its Signification that the Predicate is there—to emphasise the characteristics which are by it asserted of the Subject, is its very *raison d'être*.[1]

If we look at the difference that would result from an alteration in the relative position of the names used in this proposition, as, *e.g.*:—

> The red octavo volume bound in Russia leather is on the chess-table;

or,

> The red Russia-leather volume on the chess-table is octavo,

it appears to me that the analysis just given receives strong confirmation. It is in each case clear that the Signification-emphasis naturally falls upon the Predicate—that there is a *comparative* elimination of stress, upon Signification in the Subject and Application in the Predicate. And this is made even clearer by considering that the three different statements given would be regarded as respectively appropriate to different contexts; *e.g.*, in response to the request to be shown a book bound in Russia leather, or a volume in octavo, or in reply to the question, Where is the red octavo volume bound in Russia leather?[2]

Every object of sense-perception (and when we come to think of it, every object of thought) has a great multiplicity of characteristics (taking *characteristic* in the widest sense), but attention cannot in any case be focussed upon all of them at once;—"the narrowness of consciousness" is not only a conception of scientific Psychologists but (to most of us) a matter of undoubted, and perhaps painful,

[1] The relative prominence of Application in the Subject, and Signification in the Predicate, is very strikingly illustrated by the linguistic changes which Propositions undergo (in English and other languages) in Conversion—changes which appear to follow modifications of the thought expressed.

[2] The proposition which has been here examined is, of course, a mere example; it would be equally easy to apply similar treatment to any other proposition of the form *S is P; e.g.*, to the propositions Genuine disinterestedness compels admiration, or Perfect Justice is a rare virtue. An Attribute (of a Subject) may be an object of Thought, and that to which a name applies, just as much as a Subject (of Attributes) may.

experience. Indeed, limitations of interest, and corresponding abstraction or elimination, seem, for us, necessary conditions of all intellectual movement. And it appears to me that in examining the verbal expression of Judgments we find an extraordinarily close and subtle correspondence between Thought and Language. I have tried to indicate this with reference to a few points; and I think that the further we reflect, the more we are struck by the delicate and complex reciprocity between Thought, and this instrument and embodiment of Thought which Thought itself has moulded. And if it were not for objections that have been brought, it would seem to me wholly superfluous to remark that it is not of the English language alone that this is true. For instance, some of the points insisted on above are even more striking in languages which are richer than English in inflexions. Thus, in Italian, French, Latin, &c., a Proposition which has a plural Subject will have also a plural Predicate. I do not know what may be the case with what have been called "uncivilised languages"—but if they fail to correspond to, or to express, Thought, it is a deficiency which affects them alone, and for which we cannot blame either Thought itself, which in such cases has not had a fair chance, or those languages upon which Thought has done its more perfect work.

I do not see that Propositions such as Rain falls, The sun sets, &c., need (or indeed can) cause any difficulty. The form of the Predicate and its recognised significance, the history (if need be) of its formation, the thoughts corresponding to these sentences, the possibility of converting them (which depends upon their capability of being put into the *S is P* form), make it sufficiently apparent that the analysis already offered is applicable to them.

If, returning to the sentence first given, we make of the names composing it not a Proposition but a single many-worded name—*the red Russia-leather octavo volume on the chess-table*—what is the difference of Thought which corresponds to this difference of expression? The thing referred to in the Proposition and in the mere compound name is clearly the same—the one identical object with its given group of characteristics. This point is elaborated by Dr. Hillebrand, who (following Brentano—*cf.* Hillebrand's *Die neuen Theorien der Kategorischen Schlüsse*, p. 28) insists that in any Judgment *S is P* the very same numerical object is present to the mind as in the mere apprehension or ideation of an object combining the characteristics S and P. As he observes, to define Judgment as a combination of

ideas is certainly unsatisfactory. If for no other reason, it is so because there may be (as in the above) a combination of ideas without Judgment; but the reason given by Hillebrand is, because there may be Judgment without such combination. According to him, in *A is*, I simply accept or posit (*anerkenne*) *A*, and *A is* is a Judgment—the difference between Ideation (*Vorstellen*) and Judgment (*Urtheilen*) being, that in judging I posit or accept, *e.g.*, *A*, while in simple ideation this is not done. On this view it cannot be said that in *A is* there is a combination of the *idea of A* with the *idea of existence*, because in the 'acceptance' of A the idea of A's existence is included.[1] In Judgment, says Dr. Hillebrand, the thing judged is so regarded by me as that it may be accepted in a true statement. But why a "*true* statement"? *Every* statement by its very nature *lays claim to be true*, though many are capable of being proved to be *not* true; and the Subject or Predicate of a Proposition which is proved to be *not* true has been just as much posited, recognised, or accepted, is just as much matter of Judgment, as the Subject or Predicate of a self-evident or demonstrably proved Proposition. Further, if by 'true statement' were meant a statement known to be true by self-evidence or by demonstration, the absurdity would be involved that we must have a criterion of true Judgment before we can have any Judgment at all. And if by 'true statement' were meant a statement believed by the assertor to be true, a criterion of truth of Judgment—though only, indeed, a *private* criterion—would still be a necessary preliminary to Judgment itself.

It cannot be that the 'true statement' is *A is* itself; because what is aimed at is, the accrediting of *A* as Subject or Predicate of a Judgment, *i.e.*, of *any* Judgment; and yet, unless *A is* is itself the 'true statement,' what is the force of 'true'?

However, so far as Hillebrand's meaning is that what is Subject or Predicate in a Proposition has a certain reference to other things of which an idea (or name) not so used—a possible but not actual Subject or Predicate—is destitute, I think that this is true. The Subject and Predicate of a Judgment have a certain *status*—one feels that between (*a*) the 'mental equivalent' corresponding to *red buckram volumes* and (*b*) the 'mental equivalents' corresponding to

[1] This doctrine seems to me inconsistent with Hillebrand's view that A and E propositions do not imply the 'existence' of anything referred to by the Subject.

the Subjects and Predicates of the propositions *Some volumes are red buckram*, or *Red buckram volumes are durable*, or *Red buckram volumes are not æsthetic*, there is decidedly a difference—though the volumes thought of in all would be similarly described.

If *red buckram volumes* stands barely by itself, one feels that it is just waiting for a 'position'—there is indeed an idea corresponding to the term, but until thought has made some further step there is nothing which has substance and standing enough to be accepted or even rejected. But when Hillebrand goes on to say that such positing or accepting as an idea has in Judgment *is* Judgment—that the mere recognition or acceptance of, *e.g.*, *A* is a Judgment, and that *A is*, which expresses that acceptance without combination of ideas, is itself a Judgment, I think that he is wrong—that he attempts to give to the Subject (or Predicate) *in isolation* a character which it has, and can have, *only* as Subject (or Predicate) *of a Judgment*, and that he entirely fails to prove his case; and the paradoxicalness of his position is indicated by the assertion (which perhaps logically follows from his theory of the relation between "position" and Judgment) that, *e.g.*, the words *This plant* express a Judgment. What they *do* imply is, that they are the Subject or Predicate of a Proposition, in detachment from their appropriate context. Surely either (1) *A is* is abbreviated or elliptical, or (2) it is not a Judgment. If neither of these alternatives is accepted, what can *A is* mean? The fact is, I think, that it is *not* possible to fully express a Judgment by less than two names, though it *is always* possible by compounding the Terms of a Categorical to frame *one name*.[1] The Subject and Predicate of a Judgment seem to have necessarily some reference beyond the mere psychological object, the presence of which to the mind is an inevitable condition of consciousness—the admission of this "psychological object" is called by Mansel the "psychological Judgment" that is "coeval with all consciousness". I understand this 'psychological Judgment' of Mansel to be *not* the same thing as Hillebrand's Judgment of *Anerkennung*.

The difference between Judgment and Ideation (*Vorstellen*) seems to me to be summed up in, or deducible from, the position that Judgment is the real unit of Thought. A Judgment has life and movement, it presents something for

[1] It may be observed that even single-worded names may embody the results of previous judgments; and that thus judgments now 'analytic' may imply past 'synthetic' judgments.

acceptance or rejection, it is a finished and explicit Analysis in Synthesis, it has a bearing upon and connexion with *all* the matter of Thought—*it* and *not* the 'Concept,' the bare idea, has a completeness of its own—a completeness which, however, far from meaning mere isolation, means inexhaustible capacity of connexion.

Of a mere percept or idea none of these statements can be made. The percept or idea, and the name corresponding to it (as long as it remains a mere name and not a Subject or Predicate), has not found its place in the world of Thought. A mere name, certainly, may have both Application and Signification, and any object to which it applies must, I think, have 'existence' and characteristics—an idea or percept must be an idea or percept *of something;* but of *mere* idea, or *mere* name, what more can we say? Even in saying so much, we have gone beyond mere idea and mere name, for this simple reason that we cannot think at all unless we *do* go beyond them.

I have hitherto been considering only affirmative Judgments, expressed or expressible in the form *S is P;* but something must be said of negative Judgments, and of some forms concerning which it is not obvious and indisputable that they are expressible by *S is P*. To negatives of the form *S is not P*, the analysis of *S is P* here put forward is *mutatis mutandis* applicable. We have here not an affirmation, but a denial, of identity in diversity. That the *is not* here, as the *is* in *S is P*, refers to Application appears from the consideration that *diversity of Signification* does not preclude the affirmative copula—witness every proposition of the form *S is P*. If the *is* in *S is P* has reference to Application, by all analogy the *is not* in *S is not P* has also reference to Application. And on examining the *thought* corresponding to any concrete proposition of this form, the analogical presumption is confirmed. Take, *e.g.*, *Scarlet flowers are not fragrant*, or *That bird is not a thrush.* Here the things to which the Subjects apply, whether present in perception or only in idea, are thought of as distinct from anything to which the respective Predicates apply —identity is denied by the negative copula. And while in the case of any *S is P* diversity of Signification in Subject and Predicate seems necessary in order to avoid unmeaning repetition, in negatives a similar diversity is required, on pain of self-contradiction. We are concerned here not with Synthesis but with Separation.

With regard to the Judgments that are expressed in sentences of the form *X is* or *There are Y's*, I can only say

that unless *X is* is elliptical, meaning *X is existent* (*somewhere and somehow*, or *in a particular place or time*), I can attach no meaning whatever to it, and do not know what manner of thought it can be imagined to express. *There are Y's* appears to be ambiguous, meaning *Y's are somewhere or other*, or *Y's are in some particular place.* .

In such Propositions as *It rains, It thunders*, the only point calling for special remark seems to be the vagueness of the Subject—the peculiar form of expression here seems explicable from the peculiar nature of the phenomenon in which there is not obviously any comparatively permanent thing to which the transient activity might be referred as Effect to Cause, or Attribute to Subject.

In such sentences as *George Eliot is Mary Ann Evans,*
Robert Cecil is Lord Salisbury,
Tully is Cicero,
it would be denied by some logicians that these names (except, perhaps, *Lord Salisbury*) have necessarily any signification at all. I am here only concerned to maintain that in these sentences Subject and Predicate are, in every case, *diverse;* and are, by the force of the affirmative copula, applied in each Proposition to *one identical person.* This is, I think, both indisputable, and sufficient to justify the application of my analysis. And a similar account may be given of such propositions as Courage is Valour, Bridge is *Brücke*, Triangle is a three-angled figure, Men are animals. The information conveyed in all these cases may be trite or 'analytical'—but circumstances are conceivable in which it may be useful or new; and the most weighty and purely 'synthetic' statement may on occasion have the familiarity and unprofitableness of a twice-told tale.[1]

[1] Some logicians have been disposed to treat as unimportant all propositions except those which have 'connotative' names for both Subject and Predicate, and at the same time are what has been called 'Real' or 'Synthetic'. The reason for this no doubt is, that it is only such 'Real' or 'Synthetic' propositions that express what are called scientific truths. (From the point of view of General, or Formal, Logic, however, this distinction between 'Real' and 'Verbal' propositions is unimportant, and it is also to be observed (*cf. ante*) that 'analytic' propositions constantly imply previous 'synthetic' judgments.) A recent writer in MIND, Mr. E. T. Dixon (*cf.* MIND, July, 1893) goes so far as to say that the distinction between 'Real' and 'Verbal' propositions is "about the most important question with which Logic has to deal". (In response to this assertion one feels inclined to ask "Why?" for I cannot see that any sufficient reason is given.) Mr. Dixon means, by 'Verbal' propositions, propositions which state an 'arbitrary' 'denotation' or 'connotation' of any name, such propositions being called by him in both cases *Definitions*, and including "every item which may be formally [= ?] shown to be

My view is that *all* simple Judgments may be stated in one of the forms (1) *S is P*, (2) *S is not P*, which express (1) Identity, or (2) Distinctness [of Application] in Diversity [of Signification]—hence these forms and this analysis are absolutely General or Formal, as far as Simple (or Categorical) Judgments are concerned. I maintain further that this is (in essence) the *only* account which will apply to *all* Simple Propositions without exception (except perhaps Hobbes's account; which, however, is nothing more than a very inadequate analysis of the propositional sentence, and would admit unmeaning verbal combinations of the form *A is A*, which the analysis insisted on in this paper will not).

It may be well to consider briefly some other accounts of Judgments or Propositions which have been put forward by Logicians and widely accepted.

According to Kant a Judgment is (*a*) "the conception of the unity of the consciousness of different conceptions, or (*b*) the conception of their relation so far as they make up one notion" (*Ueberweg, System of Logic*, p. 192).

This seems not radically different from Aristotle's definition of Judgment as (*c*) a "combination of conceptions in which there is truth or falsehood" (*op. cit.*, p. 191). These accounts agree in being intended to apply only to cases in which we are dealing with class-names to which general notions or conceptions are supposed to correspond—they do not seem applicable to definitions, or to Propositions in which both Terms are synonyms, or either Term is a Proper Name. Hence the definitions in question are narrower than the *definitum*. But further, even as far as they may apply, they are unsatisfactory—first because too vague—(*a*) "conception of unity of consciousness," (*b*) "conception of

implied by the explicit statement". Mr. Dixon holds that "the whole of pure mathematics and symbolic logic may be regarded as purely verbal arguments, and so also might probably the greater part of the arguments of past and present logicians and metaphysicians" (why not also *mathematicians?*). This is a bold assertion, and needs much more support than Mr. Dixon has given it in his article. It would, for instance, be interesting to be *shown, in detail*, how far a science of pure mathematics could be constructed without any reference to objects of spatial intuition, visible or imagined, and to learn why it is that such science, if a purely arbitrary construction, can be the common property of so many minds, and is not inconsistent with actual experience. When Mr. Dixon goes on to say that in pure mathematics and symbolic logic no "act of judgment" is required at all, it can only be surmised that he uses the term "judgment" in some peculiar and entirely arbitrary way. What does Mr. Dixon consider to be the 'mental correspondent' of mathematical and logical propositions?

relation," (*c*) "combination of conceptions," are highly indeterminate expressions—of *what kind* is the *unity*, the *relation*, or the *combination* of concepts? Is the 'unity' an unity of numerical identity (*numero tantum*)? If so, a concept is combined, &c., with itself. Or is it an unity of indistinguishable similarity? If so, again, there are not *two* concepts but *one*—unless indeed we are prepared to dispute the doctrine of the Identity of Indiscernibles. Again, Kant's account has been found fault with as being too 'subjective' —it is open to Mill's criticisms of the doctrine that a Proposition is the expression of a relation between two ideas. To the particular form of this doctrine which regards the relation in question as a relation of Agreement or Disagreement between the ideas (*cf.* Whately, &c.) it may further be objected that the terms Agreement and Disagreement as here used are vague and highly ambiguous.[1]

According to Hegel, in every Judgment there is determination of some notion (or concept)—a partition, by distinction, of its primary unity—Subject and Predicate must stand to each other in some "universal relationship".—He will not allow that such sentences as, *e.g.*, *Cæsar was born at Rome in such and such a year*, *&c.*, *I slept well last night*, and so on (which he calls *Propositions*) are to be reckoned as *Judgments;* though much of what he says about Judgment seems capable of application to *all* Categoricals of form *S is P*—*e.g.*, "By saying 'This rose is red' or 'This picture is beautiful,' we declare that these are the characteristics proper to those objects".

Hegel's limitation seems arbitrary, or at least unjustified; and at any rate his definition does not furnish a *general* account of Judgments expressible as *S is P*. It seems to me also that here again (though I speak with diffidence) there is a want of clearness and definiteness in the use of the terms *unity*, *identity*, &c. On the other hand, his view of the force of the copula, and of the reciprocal dependence of Unity and Difference, seems to bring to light the essential characteristics of the nature of Judgment.

Lotze's account of Judgment is in my opinion extraordinarily feeble, though he labours hard in ch. ii. bk. i. of his *Logic* to give a philosophical account of the Categorical Judgment, to supply it with a principle, to reconcile the familiar form *S is P* with the Law of Identity, which (as accepted by

[1] It is with reference not to Judging but to Classing that the Category of Agreement is of primary importance; p. 12 of Jevons's *Elementary Lessons in Logic* affords an interesting illustration in this connexion.

him) declares that *What is, is*, or *A is A*. He defines Judgment as expressing (or intended to express) a relation (of coherence) between the matters (or contents) of two ideas; and, fettered by the conceptualism of his doctrine, he arrives in § 54 at the remarkable statement that "the impossible Judgment 'S is P' resolves itself into the three others, 'S is S,' 'P is P,' 'S is not P'". S is P "taken just as it stands" is "a contradictory and self-destructive form of expression". No doubt, if S refers to one "concept" and P to another and different one, to say *S is P* is absurd and impossible—and that it is so is surely sufficient to prove that such an interpretation of our most common form of assertion cannot be the *right* interpretation.

It is not possible here to go fully into Mill's account of the Import of Propositions, because that account, while abounding in interest and suggestion, is also voluminously inconsistent.[1] Here it must suffice to say that according to his own summary a Categorical Proposition is really an assertion (or denial) of Sequence, Coexistence, Simple Existence, Causation, or Resemblance. This, of course, is not a 'formal' account of Import. But if we compare what he says in § 4 of ch. v. bk. i. of his *Logic* with certain passages in ch. xxii. of his *Examination of Hamilton* (pp. 497, 498, 4th ed.) we find it pretty clearly laid down that the "most common . . . meaning which Propositions (of the form *S is P*) are ever intended to convey" is, that WHATEVER *is denoted by* (or *has the Attributes connoted by*) *the Subject, has the Attributes connoted by the Predicate.* This amounts pretty nearly to the view which I am concerned to advocate—that a Categorical Proposition asserts (or denies) Identity of Object in Diversity of Characteristics ('Denotation' being prominent in the Subject of the Proposition, and 'Connotation' prominent in the Predicate).

When Jevons (*Principles of Science*, ch. iii.) discusses the Import, &c., of Categorical Propositions, expressing them as Equations ($A = B$, &c.), and speaking of them as Identities, we find that some of his examples and some of his explanations are quite in accordance with the view just given. *E.g.*, when he takes the Proposition, *Tower Hill / is / the place where Raleigh was executed*, and says that it "expresses an identity of place; and whatever is true of the one spot is true of the spot otherwise defined, but in reality the same".

[1] I have attempted a brief criticism of his confusion between so-called 'Formal' and 'Material' points of view in § 8 of my *Elements of Logic*.

But when he goes on to say that the same analysis can be applied to, *e.g.*, the Proposition—

(1) *Colour of Pacific Ocean = Colour of Atlantic Ocean*, finding no distinction between this and, *e.g.*,

(2) *Deal = Landing-place of Cæsar*, except that in (1) we assert 'identity' of *single* qualities, while in (2) we express 'identity' of a *group* of qualities (whatever this may mean), it is clear that there is confusion between Identity *in numero* and Similarity *in specie*. *The colour of the Pacific Ocean* may be *exactly like* that of the Atlantic, but we certainly cannot say that the one *is* the other in the sense in which we can say that Deal *is* the place where Cæsar landed—or indeed in any sense at all. This confusion ruins Jevons's whole account of inference, and is even betrayed by the very name—Substitution of *Similars*—which he has chosen to characterise his theory (*cf.* my *Elements of Logic*, pp. 157-159).

As I understand them, Mr. Bradley and Mr. Bosanquet would admit the Identity-in-Diversity interpretation of Categoricals, though I do not feel sure that their use of the notions of Identity (*numero tantum*) and Similarity (*specie tantum*) is always free from confusion.

Mr. Bradley says (*Principles of Logic*, p. 29): "In 'S = P' we do *not* mean to say that S and P are identical. We mean to say that they are *different*, that the diverse attributes S and P are united in one Subject."

Mr. Bosanquet says (*Logic*, i. 96): "The content of a Judgment is always . . . a recognised identity in differences".

Though Mr. Bradley uses *identical* above to mean *exactly similar*, and though in an article in MIND, vol. xiii., Mr. Bosanquet apparently uses *identity* to mean *exact similarity*, I think it may fairly be supposed that in the passages quoted above both writers are substantially free from confusion between the two notions, because otherwise it is hard to see what meaning the passages can have.

Mansel's definition too, according to which a Judgment is "a combination of two concepts related to one or more common objects of intuition" (which he explains so as to make it applicable to Propositions which have a Proper Name for Subject), is substantially a theory of Identity-in-Diversity, though it must also be reckoned among the definitions of Judgment (or Proposition) which err by the vagueness and ambiguity of some of the terms used.

With regard to the view of Import of Propositions shared by Dr. Venn and some other distinguished Logicians, it may be remarked (*a*) that they admit several possible interpreta-

tions of Categoricals, and (*b*) that in their view great interest centres round the question, How far does Assertion imply Existence?

(*a*) Since, it is said, terms may have Denotation (Extension) or Connotation, or both, any Proposition of the form *S is P* may be read wholly in Denotation, or wholly in Connotation, or S in Denotation and P in Connotation, or S in Connotation and P in Denotation; thus giving four possibilities. One might well ask here, How comes it that there can be *four* valid formal theories of Judgment or Proposition, and if there can (since each differs considerably from the others) ought there not to be four Systems of Logic corresponding to those four theories respectively? However, leaving this general question, we will look at the alternatives actually suggested.

That these four alternatives are possible, or indeed that any one of them is so, I most emphatically dispute. If the Judgment expressed by *S is P* is to be read *wholly* in Extension, then since the Application of S is (by the force of the copula) identical with the Application of P, if we get rid of the element of Connotation (in which alone there is difference) we must express the Judgment as *S is S*. *S is not P* is clearly not capable of being even supposably read in Extension only, since diversity of Signification in Subject and Predicate is rendered indispensable by the negative copula.

(2) If *S is P* is to be read in Connotation (or Intension, or Comprehension) only, again the affirmative *S is P* must melt (*cf.* Lotze) into *S is S;* for how can *any* connotation be any *other* connotation? If it is said that *S is P* expresses a *combination* of the connotations of S and P, it seems sufficient to point out that the only way in which connotations can be combined is by coexisting in (denotationally) the *same* Subject of Attributes. (One supposition after another seems to me so untenable as to be hardly capable of being stated—it can surely only be because *both* elements are simultaneously though not explicitly taken account of in *both* Terms, that these fragmentary and atomistic theories can seem to their supporters even plausible.)

Again, if in *S is P* (3) S is taken in Denotation only, and P in Connotation only, or (4) S in Connotation and P in Denotation, what is the force of *is?* Between *what* is Identity supposed to be asserted? Is it not plain that for *is* to have any assertive force there must be numerical Identity between S and P (in *S is P*), and that for any significance to attach to the assertion there must be a

diversity of Connotation or Intension? hence that, in order to give them significance, we have to take account of *both* momenta in the Subject, and *both* in the Predicate?

In order that, *e.g.*, *S* [=*All R*] *is P* [=*Q*] may be interpreted ("in Extension") to mean

Class R / is / included in Class Q;

or ("in Connotation") to mean

Attributes R / are / accompanied by Attributes Q;

not only must both aspects have been taken account of in both Subject and Predicate of the original Proposition; not only are the interpreting Propositions unintelligible without a similar analysis having been applied to them as they stand; but, further, the Class interpretation (at least) is not admissible in the case of a Proposition expressed in symbols. I mean that, *e.g.*, (1) *All R is Q* cannot justifiably be interpreted into (2) *Class R / is / included in Class Q.* Such an interpretation would not be General or Formal—there are many Categoricals of Form (1) which could not be truly represented in form (2)—unless by *included in* we mean *included in or coincident with.*[1]

(*b*) I pass now to the second of the two points referred to above, the question, as it has been called, of the 'Existential Import of Propositions'—'existence' being explained to mean "membership of the Universe of Discourse".

The point in dispute is, whether or not in Propositions of the A, E, I, O form (for it is to them that the controversy is limited) it is implied that anything referred to by the Subject-Term "exists". The answer given to this question by writers to whom I refer (including Dr. Venn, Dr. Keynes, Mr. W. E. Johnson and Dr. Hillebrand) is, as I understand, to the effect that in A and E Propositions there *is not*, while in I and O Propositions there *is*, implication of 'existence'. That is to say, Some R is Q, or Some R is not Q, can only be true if R *does* exist in my 'Universe of Discourse'; but All R is Q, No R is Q, may be true without implying that any R's occur in my 'Universe,' hence among other startling consequences (*cf.*, *e.g.*, MIND for 1892, pp. 278-281) A and E may be both "true," since A means merely There are no Rq's, and E means merely There are no RQ's; so that the assertion of both A and E amounts to no more than a denial of R within my 'Universe'.[2] But in order that A

[1] It is, of course, possible in various ways to draw attention to Signification of Subject, or Denotation (Application) of Predicate; *e.g.*, the latter is done to some extent by Quantification.

[2] I am not disposed here to make much of the objection that no ordinary reasonable person would dream of thinking that A and E may

and E together may *deny* R (*i.e.*, the 'existence' of R), A and E must both be *true*. But what *truth* can assertions about R have, if R is non-existent? And it is to be observed with reference to (1) A (All R is Q) and (2) E (No R is Q), that in *each* of those two propositions the *whole* of R is spoken of, whereas in {Rq = 0} = (1), and {RQ = 0} = (2), it is only the two propositions *taken together* that cover the whole of R.

Of course, the Terms we use suffer continual unspoken limitations from their context; but what justification there can be for saying that a region within which the things I am talking about do *not* occur is *my* Universe of Discourse, I cannot see. And what are the supporters of this view prepared to say about *S is P* as a form expressive of *all* Categorical Propositions? My principal objection to the acceptance of this view of A and E Propositions is that I cannot see what *meaning* can possibly be supposed to attach to a 'Proposition' to the Subject-Term of which nothing 'existent' corresponds in any region to which I am referring.

Mr. Alfred Sidgwick observes that "to predicate anything whatever, except non-existence, of a Subject, is to predicate more than its mere existence". I should go further, and say that in order to predicate non-existence in one sphere it is necessary to postulate existence in another. If I say

(1) Dragons are non-existent,

or

(2) Round-squares are impossible,

I do of course mean to imply the *non-existence* and *impossibility* of Dragons and Round-squares respectively—but it is non-existence and impossibility in a certain region that is neither all-embracing nor even that to which I primarily refer. Unless I refer to *some*thing, existent *some*how, in *some* region, what is it of which I predicate non-existence or impossibility (within a given region), what is it which I exclude from those regions to which 'non-existent' and 'impossible' refer? If a thing is non-existent everywhere, what does the exclusion of it from a given region mean? What *is* an absolutely non-existent thing?

The Predicate of (1) (non-existent [in Nature]) refers to the region of physical Nature; of (2) (impossible [in space]) to the region of Space (or Space-imagination). But surely the region of the *Subjects* of (1) and (2) is a region (exclusive

be true together, that I cannot be inferred from A nor O from E, &c.; but I think it might furnish an argument worth considering, since Logic is at bottom consistent with Common-sense.

of Nature, and actual or imagined space) in which Dragons and Round-squares respectively *do* exist for me at the time when I am talking of them—namely, a Region of Supposition —such a region as Lord Beaconsfield referred to when, in a Debate on a Burials Bill, he spoke of himself as "a Nonconformist contemplating his burial".

Unless 'existence' in *some* region is postulated, I am wholly unable to understand how any meaning can be given to a so-called 'Proposition'. No one objects to admitting regions of, *e.g.*, Fiction and Imagination—why not then, also, allow this Region of Supposition—a region to the full as indispensable and still more populous, though, in part, even more removed from the solid ground of Fact?

With regard to the Propositions (1) and (2) above, I should be inclined to say that each has a certain reference to *two* regions—the force of the Propositions being to affirm the (1) non-existence and (2) impossibility *in a region referred to by the Predicate* of the *Subjects* in (1) and (2) respectively. The point I wish to insist on here is strongly brought out by such a proposition as, *e.g.*, *Some combinations are impossible;* and this proposition also illustrates, I think, the difficulty of applying the view that while A and E do *not*, I and O *do*, imply the 'existence' of (*not* their Subjects but) that to which the Subjects apply. Is any more 'existence' implied here than in my (1) and (2) above?

In conclusion, I should like to say a word about some of the bearings of the Identity-in-Diversity view of Judgment. The *possibility* of Propositions thus analysable seems to me to depend upon the fact that we neither know nor can suppose anything whatever that has not a plurality of coexistent characteristics,[1] and hence a plurality of names; their *actual use* upon the fact that, when we thus express judgments about things, it is for the sake of drawing attention to some selection of their characteristics.

[1] Hence we might state, as the Principle of Categorical Assertions, a Law of Identity-in-Diversity which would connect interestingly with an Inductive Principle of Uniformity of Coexistent Characteristics, thus:—Law of Identity-in-Diversity = Everything has a *plurality* of characteristics (A is B); Law of Contradiction = If a thing has any given characteristic, it has not the negative of that characteristic (If A is B, A is not not-B); Law of Excluded Middle = Anything has either a given characteristic or its negative (A is B or not B); Inductive Principle = Every characteristic is *inseparable* from *some* other characteristics; and there is an *uniformity* of interdependence between characteristics. (Might not the Law of Contradiction be regarded as the formulation of a self-evident case of uniform connexion—that, namely, between *any* characteristic and the negation of its negative?)

The Identity-in-Diversity theory of Judgment supplies the principle and explanation of Immediate Inference by Conversion, by Added Determinants and by Complex Conception, and of the process which Jevons (from an unfortunate confusion already referred to) has called the Substitution of Similars. Moreover, it is on this same principle that the possibility and validity of Syllogistic Inference, and the connexion of Antecedent and Consequent in Inferential Propositions (*e.g.*, If M is P, S is P), depend. It also supplies something like a scientific basis for the classification of Fallacies, and furnishes a clear and simple explanation of various disputed questions—*e.g.*, Quantification of the Predicate, and the interpretation of Alternative Propositions.

III.—IDEALISM AND EPISTEMOLOGY. (II.)

By Prof. H. Jones.

I have tried to show that the critics of Hegel and his followers have taken his theory of thinking to be a theory of thoughts, and converted his process of reality into an unsubstantial system of abstract ideas. I have also tried to show that the systems of ideas whose nature, validity and relation to reality the Epistemologists investigate, do not really exist. What exists is a series of mental operations, activities of reality, as manifested in the subject who thinks and in the conditions, within him and without, which make his thinking possible. There are thinkers and things thought about; but there are no third entities. The mental processes performed by individuals do not leave behind them any products which can be regarded as having the apparent independence and real existence of things. The *only* result of mental activities is the modification of the mental faculty. Thinking develops the thinking powers, but it does not aggregate, either within the thinker or elsewhere, a heap, or mass, or series of ideas. Hence the phrases "world of ideas," "circle of ideas," "system of knowledge," indicate no actual fact. They are substantiated abstractions, as unreal as a world or circle or system of deeds severed from their agents. Ideas pass away never to be recalled, just as truly as actions or sensations pass away. They are serial phenomena, which can neither be associated nor dissociated, for they have no permanence and no universality. None of them serve to connect others, and they form no system, and consequently no theory of them is possible. We may have a science of the process of thinking; but a science of the products of thought, a theory of knowledge and of the nature and validity of ideas, is possible only at the expense of substantiating what is fleeting, and of treating abstractions as if they were realities.

Now, there is a sense in which every science (and even Metaphysics) deals with the fleeting as if it were permanent, and with abstractions as if they were real. We *must* tear up the unity of the real and deal with aspects only, for the simple reason that we cannot think all things at once. It may, therefore, seem that the charge made against Epistemology may be directed in like manner against all human

knowledge, which certainly never reflects the whole of being but is always incomplete. If 'ideas' severed from the subject who thinks them and from the objects which they mean are unreal, so also, it may be said, are the 'quantity' of the mathematician, the 'laws' and 'causes' of physics, and even the 'things' of common-sense. All these in their last resort are abstractions and myths. We may in fact say at once that all human thought is untrue and all its objects are unreal, for the former is incomplete and the latter are abstractions. But this is only a half truth. If all knowledge is false in so far as it is only a partial revelation of reality, all knowledge is true in so far as it is *nothing but* a partial revelation of reality. If every fact and event is in its isolation only an appearance, every appearance in its place within the system of reality is itself real. The condemnation of the incomplete and partial as false and unreal itself depends on the presence of the complete and real. Hence no science is altogether false and no abstraction is altogether nothing. In other words, while every science is untrue in so far as it is inadequate to the reality which it investigates, it still does investigate reality. But the unique characteristic of Epistemology is that it postpones the investigation of reality to another matter; it must pronounce upon the nature and validity of knowledge before it can be sure that we are not foreclosed into a thorough-going scepticism. It must investigate ideas in order to show first of all whether or not their whole meaning is not false, and their objective reference a mere illusion. So that the ideas with which it deals, while not altogether unreal, are set up over against reality. In so far as they have meaning, or are more than psychical events, they cannot be even appearances, for they can find no place in a system of reality whose very existence is matter of doubt. Epistemology, in a word, differs from every other form of knowledge in that it cuts itself entirely free of reality to begin with. It must not assume the reality of the objects to which the ideas refer, for this is the very problem it has to investigate. It has nothing to do with the reality of the ideas as psychical occurrences, for that is the business of Psychology. It thus abstracts from reality on both sides, and by dealing with the mere meaning of ideas seeks a place between Psychology and Metaphysics.

But this process of double abstraction from reality, this withdrawal into the world of mere meaning, destroys the very possibility of Epistemology. I shall try to show that it finds its problem by only *seeming* to retire from reality, and that in so far as it actually does retire from it, it

can find neither its problem nor its solution. In other words, I shall try to show that the whole edifice of Epistemology rests on a contradiction, on an attempt, that is, to treat its first starting-point and basis as both real and unreal. I do not deny the possibility of a theory of knowledge in every sense. I deny *this* theory of knowledge, because of the abstraction which is vital to it and at the same time fatal to it. In order that we may have a true theory of knowledge we must undo the abstraction on which Epistemology rests. We must restore the relation of ideas to reality on both sides. We must regard ideas in connexion both with their psychical occurrence and with the actuality of their objects. We must take ideas, not as independent entities or mere meanings, but as manifestations of the activity of reality. We must, in a word, base our theory of knowledge on a theory of reality, and either regard it as a particular science dependent on Metaphysics, as a part of Psychology, or else, by pressing its hypotheses and categories home, identify it with Metaphysics.

The importance assumed by Epistemology in modern times demands that an attempt to cut its very root should be justified in detail. Epistemologists insist, not only against Idealism, but also against every other philosophy which professes to deal directly with reality, that before we can legitimately say one word as to its nature, or take one step towards constructing a Metaphysic, we must solve certain preliminary problems as to the nature and validity of knowledge. Prof. Seth puts the matter in this way: "Is there any reality beyond the conscious states themselves and their connexions? If there is, in what sense can we be said to know it? Is knowledge, inference, or belief the most appropriate word to use in the circumstances?" (*Phil. Rev.*, i. 136). "How, or in what sense, does the individual transcend his own individual existence and become aware of other men and things? It is this relatively simple and manifestly preliminary question that Epistemology has to take up. Subjective states are plainly our data; it is there we have our foot-hold, our *pied à terre;* but unless we can step beyond them, Metaphysics in any constructive sense can hardly make a beginning. Epistemology, if its results are negative, necessarily leads to a thorough-going scepticism; but if its results are positive, it only clears the way for metaphysical construction or hypothesis" (*Phil. Rev.*, i. 138).

Two doctrines are set forth with admirable clearness in these words, namely—first, that the problem of Epistemology is to explain the transition we make, or seem to make, in

knowledge, from "conscious states" to a reality beyond; second, that this problem of the nature of the transition must be solved before we can attempt to determine whether there is reality and what is its nature. In order to solve its problem, Epistemology is furnished with "plain data". These are "subjective states," 'in which it has its foot-hold, its *pied à terre'*. But in this last statement I find a most serious difficulty. What meaning is attached to these "subjective states," on which as the one fragment of solid ground the epistemologist plants his foot? Following the lead of Prof. Seth and other epistemologists, I accept the distinction on which they insist as against Idealists, the distinction, that is, between a fact or event, and the knowledge or the idea of the fact. We are particularly warned by these writers not to confuse reality in any form with our thoughts concerning it. Lotze is most emphatic in his view that feelings can never be the ideas of them. And this applies in a similar way to all the phenomena of consciousness. The distinction between a psychical occurrence and the consciousness of that occurrence is as broad as the distinction between any other event or fact and the *idea* of the event or fact. The *idea* of the toothache, or of love or hatred, or of the perception of an object, or of a volition, is no more the actual toothache, or love, or hatred, or perception, or volition, than the idea of Arthur's Seat is the actual Arthur's Seat. It does not matter whether the fact be subjective or objective, it is never the idea of itself.

Of course this difference rests on the presumption made by Epistemologists that *ideas* of facts, psychical or otherwise, have sufficient substantiality to be opposed to the facts. Apart from this most questionable assumption no one can deny the distinction. I would myself insist upon it as a universal and necessary truth. To assert that a thought is the thing thought of, or that one psychical activity is another psychical activity, is tantamount to dissolving the continuity of being, and contradicts the first condition of thinking. Nothing can be anything but itself. The fact is the fact, the event the event, the thought the thought; and there is an end of the matter. No metaphysical theory can affect this fundamental truth. Even if it be true, as Idealists are supposed to say, that reality is thought, or thoughts; nevertheless, the thoughts *of* reality are not the thoughts which constitute reality; they are at the best *other* thoughts, and are either unreal or additions to the first reality. A complete idea of the Universe would not be the Universe; the idea would be the idea, and the Universe the Universe. And

the latter would have to be enlarged so as to take the former into it, or the former would have to be shown to be an unreal abstraction.

In the meantime, I accept, then, in the fullest way the distinction between thought and reality on which our critics insist. Let us now see its bearing on their doctrine. If the actual fact or event is never the knowledge of it, then our "subjective states" are not our knowledge of them. Both are facts, of course, and both are psychical facts; but they are different psychical facts; the one is the object known, the other is the knowledge of the object, both falling within Consciousness. Now, the question arises, which of these is the datum of the Epistemologist? In which does he find his 'foot-hold, his *pied à terre*'? Is it in the reality, or is it in the knowledge of it? Is it the subjective state as a psychical occurrence, or is it the reflective knowledge of that psychical state?

Let me put the difficulty in another way. The Epistemologist has a "chasm to bridge over," and that chasm separates the sphere of knowledge from the sphere of reality. "The chasm is not absolute," we are told, "else knowledge would be for ever impossible." Nevertheless "he" (the knowing individual) "does not pass over into the things, nor do the things pass over into him. At no point can the real world, as it were, force an entrance into the closed sphere of the ideal; nor does that sphere open at any point to receive into itself the smallest atom of the real world, *quâ* real, though it has room within itself *ideally* for the whole Universe of God" (*Phil. Rev.*, i. 515, 516). Granting, for the sake of argument, that both of these closed spheres exist, the question arises: Into which of these exclusive spheres do the "subjective states" fall? In which of them does the Epistemologist find his "foot-hold, his *pied à terre*"? Is it in the ideal sphere, or in the real sphere, or in both? There is, of course, a sense in which the "subjective state" is both real and ideal. I mean that an idea is ideal as having meaning, and real as being a psychical event. This truth has by no means escaped Prof. Seth. "Of course," he says, "if we take reality in the widest sense, our cognitive states are also part of reality. The wildest fancy that flits through the mind exists in its own way, fills out its own moment of time, and takes its individual place in the fact-continuum which constitutes the universe." But, as he tells us elsewhere, this existential side of the idea is of no interest to Epistemology. "It is only for the psychologist, however, that mental states are interesting on their own account, as

'subjective realities or facts" (*Phil. Rev.*, i. 132). Epistemology deals only with their meanings, and 'conveniently neglects' their other side. As psychical events filling out their own moments of time they are 'parts of reality,' examples of what is called above "smallest atoms of the real world". But being real "they cannot force an entrance into the ideal sphere," and "the ideal sphere cannot open at any point to receive them into itself". They thus fall into two fragments, one of which is seized by Psychology and the other by Epistemology. Epistemology, being a system of ideas, cannot adopt them *quâ* real. (Psychology in some mysterious way can, although it, too, is a system of ideas.) As facts, or as real events, they are shut out of the ideal sphere. Seeing that, *quâ* real, they escape the clutch of Epistemology, Epistemology does in strictness not deal with *them* at all, but with ideas of them. But as the ideal is never real, as their spheres are entirely exclusive, how is Epistemology possible? If it starts from the subjective state as real, then the real and ideal are not separate. The Epistemologist actually knows *this* real thing. He has *this* reality in his hand immediately and directly; and the question which he asks, whether he can or can not know reality at all, is absurd. He assumes as his starting-point that he does know it, and the only reasonable question he can ask is, whether, knowing one reality, he can or can not know some other reality. If, on the other hand, the Epistemologist can not know facts but only ideas, if he starts not from the subjective state, or from the self, but from his idea of that state or self, then it may be asked, what kind of foot-hold or firm ground does he find in it? What special virtue lies in the idea of a subjective state more than in the idea of a stone, a stick, or griffin, that he should 'find in it his *pied à terre*'? The idea of the self is no more the self than the idea of the world is the world. Hence, if we refuse to play fast and loose with the reality of the subjective state, if we adopt and hold fast to the two exclusive spheres of the ideal and real, Epistemology seems to me to be in an inextricable dilemma. It cannot deal with the subjective state as real, for, *ex hypothesi*, it has first to pronounce on the possibility of knowing any reality, on the validity of the objective reference of any idea. And, on the other hand, it cannot deal with the subjective state as a mere idea; because if it begins with an idea it must end with ideas. There would be no outlet from the sphere of ideas, for surely it is preposterous to seek such an outlet by having more ideas. It has no foot-hold, its very dream of reality would vanish, and with it its own problem.

But, it may be urged, there is a third possibility. These subjective states may have the unique characteristic of being both real and ideal; or mind may have the power of knowing in this instance the actual reality itself; or, in this instance, at this point, the ideal and the real spheres interpenetrate. And this is what Prof. Seth means when he insists that the chasm between the ideal and the real, which 'nothing can bridge over,' is 'not absolute'. This is also implied in the use of the word 'datum'. "Subjective states," it is said, "are plainly our data"; and a datum manifestly means a reality that is also known, at least to some extent. A datum that is not real, and a datum that is not known, are obviously meaningless phrases.

Now I have no objection to the statement that "subjective states are plainly our data". I would add, however, that they are data only as psychical events 'filling their own moment of time, and taking their individual place in the fact-continuum which constitutes the universe'. They are data as 'parts of reality'. And I would add further that mountains and rivers, other men and other things, are data in precisely the same sense. If the real state of the subject and the idea of it, if the actual self and the knowledge of it, come together in the one case they come together in the other. Or, on the other hand, if the idea intervenes between us and mountains and rivers, the idea intervenes between us and the psychical states. If the actual Arthur's Seat eludes our grasp, so does the actual self. Idea and existence, thought and thing, are similarly related in all cases. If Reality sunders into two aspects, if it has both an ideal and existential side in one case, it has the same in all other cases. Reality, whatever it is, is consistent with itself; and if it has as its fundamental characteristic the function of appearing as idea in the case of subjective states, it has that characteristic always. If not, how would even the empty conception of any reality other than psychical states ever occur to us?

I do not expect, however, that Prof. Seth will admit this. Its admission is not consistent with his fixing on subjective states as in some special way giving us our foot-hold. So that the question at issue turns out to be this: Whether or not we know anything actual *besides* subjective states; or, in other words, whether Sensationalism be not, after all, the true philosophy. But I do not expect that Prof. Seth will admit this either; for it is inconsistent with his view that, besides an Epistemology which concerns itself primarily with subjective states, we may have a Metaphysical doctrine of reality in general which may be either Idealistic or

Materialistic. Moreover, he knows the history of Philosophy too well to be ignorant of the fact that Sensationalism leads to 'thorough-going scepticism'. There is some confusion here which we must try to disentangle.

We have set aside two alternatives for Epistemology—the alternatives, namely, of starting with a mere idea, or with a mere fact; we have, in other words, thrown overboard the absolute exclusiveness of the real and ideal spheres, and accepted 'the subjective state' as in both spheres at once, that is, as a 'datum,' or reality known. Now the problem arises, how can Epistemology, starting as it does with reality in one particular form, ask its primary question? Epistemology is defined by Prof. Seth as "an investigation of knowledge as knowledge, or, in other words, of the relation of knowledge to reality, of the validity of knowledge. This, at least, is the fundamental question to which other Epistemological discussions are subsidiary" (*Phil. Rev.*, i. 130). "Our cognitive states appear to refer themselves to a reality which we know by their means. Epistemology does not, like psychology, rest in the appearance. It seeks to determine whether the appearance is true, and, if true, in what sense precisely it is to be understood" (*Phil. Rev.*, i. 136). Will the reader compare this statement of the problem of Epistemology with the one quoted above? "Is there any reality beyond the conscious states themselves? How, or in what sense, does the individual knower transcend his own individual existence and become aware of other men and things? &c." If he does compare these statements of the problem of Epistemology, I think it will become evident that Prof. Seth confuses two distinct questions, and that his Epistemology rests on that confusion. The first of these questions is, Can we pass from knowledge to reality? Or can we know *any* reality? The second of these questions is, Can we pass from subjective states as known realities to other realities, persons, or things? Can we know any reality *besides* subjective states? The first problem is concerned with the possibility of the transition from knowledge, *excluding all reality*, to reality; the second with the possibility of the transition from the knowledge which *includes* one species of actual facts to a knowledge of other facts. We may put the distinction less accurately but none the less fairly by saying that the transition in the one case is from ideas to reality, in the other case from reality to reality.

I think it is not necessary for me to insist that there is a fundamental difference between these problems, and that it

should be made clear which of them is the real problem of Epistemology. Does Epistemology start within the ideal sphere and then try to get out of it to reality? Or does it start with a fact and, like every other science, investigate the relation of its assumed fact to other facts? If it does the first, then I need not repeat what I have already urged, that it can never reach reality, nor even ask whether there is reality or not. It is shut up in the ideal sphere. If it does the second, then it does not "inquire into the nature of knowledge as knowledge, of the relation of knowledge to reality," but into the nature of reality, and of the relation of reality to reality.

The first question is unanswerable. We cannot get out of the circle of mere ideas, because we are never in it; and we cannot get into the sphere of reality, because we are never out of it. And the assumption of a 'datum,' which is manifestly indispensable, shows that Epistemology itself proceeds from a reality and not from a mere idea. The second question is answerable; but it is not the question of Epistemology. It is the question of the relation of a part of reality to reality in general, a question which is asked by every science, and which definitely assumes that reality is knowable, and, so far, actually known.

But Prof. Seth cannot afford to distinguish these questions, nor can Epistemology. It *must assume* reality in some form in order to have a foot-hold. This is done in the second question, where the actuality of the subjective state is taken for granted. On the other hand, if Epistemology is to make a preliminary inquiry into the validity of the objective reference of knowledge it *must not assume* reality; and hence the first question is asked. Epistemology thus rests on a self-contradictory basis: it both must and must not assume reality. And we find in this very necessity an explanation of the extraordinary statements made by Prof. Seth, and quoted in my last article, that 'the chasm between knowledge and reality is not absolute,' and yet 'that nothing can serve to bridge it over'. The radical unreasonableness of the science is concealed by these ambiguous ways of stating its problem.

That it is based on a contradiction which is hidden beneath a confusion may be shown in another way. This confusion lies in the phrase "subjective states". States may be 'subjective' in two senses. First, a state may be subjective in the sense of being a portion of the experience of an individual subject. Feelings and volitions as well as cognitive activities are subjective in this sense.

Mine are mine, and yours are yours. Secondly, a state may be 'subjective' in a sense which is applicable to ideas only, and not to feelings or volitions. Subjective ideas are those whose objective reference is not valid. In a word, they are untrue ideas, or illusions. We may, and continually do, inquire into the validity of a subjective state in this second sense; that is, we investigate the truth of a part of our knowledge by reference to our view of reality as a whole; we test a part of our experience by reference to the conditions of the possibility of any experience, or, in other words, by reference to its fundamental principles. But subjective states in the first sense are neither true nor untrue; for they are *ex hypothesi* parts of the life of the individual; they are assumed to be facts.

Now Prof. Seth uses either of these senses at his convenience, and he saves his Epistemology only by doing so. At one moment 'the subjective state' is a real experience, a part of the world of reality in which he finds his foot-hold. At the next moment 'the subjective state' is an idea whose objective reference may, or may not, be valid. It is a part of the ideal world. And it is only this ambiguity which gives 'the subjective state' its value for Epistemological theory. It makes it possible to start from reality while seeming to leave the question of the possibility of knowing reality untouched; for the subjective state is either ideal or real as we please. In fact, the unconscious movement of the Epistemologist may be justly described as follows. He first starts from the subjective state or idea, as a fact of experience; then he slips the existential side of the idea up his sleeve and treats it *merely* as having meaning; then he looks up and asks, where can we find the reality which corresponds to this meaning? It seems to me that we can justly demand greater explicitness on this fundamental matter of the problem which Epistemology seeks to solve. Which is its problem? Is it whether we can know any reality whatsoever, and, if so, how? Or is it whether we can know any reality besides subjective states, and, if so, how? Epistemology starts from the subjective state as real, or it does not. If it does *not*, then it starts *ex vacuo*, and although it is not dumb, it has nothing to say. It is shut up absolutely and irretrievably in a circle of ideas and has at no point any foot-hold or contact with reality. On the other hand, if it *does* start from a real fact as known, then it has assumed not only the possibility but the actuality of a positive relation between the real and the ideal. It is confessedly unable to get behind reality in order to set forth on its specific inquiry, and has assumed a datum. Its

problem is, therefore, no longer that of the validity of knowledge, but that of the relation of one fact to another, and in this respect it is just like other special sciences. It sinks in fact into a part of Psychology, and, as such, it is dependent upon, instead of preliminary to, Ontology. Like Idealism, which it criticises, it bases the cognitive relation of thinker and things upon their Ontological relation, instead of *vice versâ*. It seeks to understand, and not to make, a connexion between the real and the ideal. It denies the chasm between the ideal and the real by treating the subjective state as both; and thus, instead of having two spheres mutually exclusive, it goes far towards showing that reality has two sides, the existential and the ideal, or, in other words, that the real reveals itself as ideal.

I conclude, then, that Epistemology, as an inquiry into the validity of knowledge in general, is an impossible science, and that it has seemed possible only because, under the guise of this inquiry, it really deals with quite another problem, namely, whether it is possible to know anything *besides* subjective states. This is not an Epistemological inquiry, but a Psychological one aspiring to be Metaphysical. Before examining this second inquiry, and in parting with Epistemology as the science of the validity of knowledge in general, I should like to say that there is an objection frequently urged against such a science which seems to be plain and unanswerable. It is that it is impossible by knowing to pronounce upon the validity of knowledge as a whole. We may test a part by reference to the whole or the principle of the whole, but we manifestly cannot test the whole by means of a part. I have not used this argument; Epistemologists have been appealed to so often from this side that I must conclude that they are deaf on it. The same argument might have been put in another way, namely, by simply asserting the incontrovertible fact that Reality is all-inclusive, and, as such, takes in even false ideas. But this also is admitted and ignored by Epistemologists. They manifestly carry reality with them as a criterion whereby to distinguish truth and error, and they use it in every judgment that they make. But this does not deter them in the least from asking where is reality, or whether it is or is not. These broad objections having failed, I had recourse to the more tedious process of analysing the claims of this pseudo-science, for which I offer this apology to the intelligent reader.

It remains now to examine the second problem, which pretends to be Epistemological, but which I have asserted to be a

Psychological one aspiring to be Metaphysical—the problem, namely, whether we can know anything *besides* our own subjective states. This inquiry starts from reality as directly, if not as frankly, as Idealism itself; hence the choice offered us is not between an Epistemology and a Metaphysic, but between one Metaphysic and another. And I think, as already hinted, that the Metaphysic to which it leads is simply Sensationalism. This Sensationalism differs from that of Hume or Mill, only in that it has been sophisticated to the highest degree by its intercourse with Germany, and by its attempt, at least in Prof. Seth's hands, to attach itself both to German Idealism and to Scotch Realism of the rough and ready type of Reid. To prove this, I acknowledge, is a task I am loth to undertake. I am not sure whether it would be a service to philosophy to separate the elements of a theory which represents itself as a combination of Epistemological Realism with Ontological Idealism; which, in other words, as an Epistemology asserts that it deals with mere ideas, as a Realism asseverates that these ideas are true, as an Ontology proclaims that it deals with reality, and as an Idealism pronounces this reality to be either thought, or thoughts.

I shall content myself with examining its fundamental assumption—That we do know subjective states as *real facts*, that at first at least we know nothing else, and that what we require to discover is whether, and, if so, how we can know anything besides subjective states. The first characteristic of this theory I should like to point out is that it starts from a *particular* datum, regarded as indubitable—"Subjective states are plainly our data". In this respect it reminds us of Cartesianism, which also sought for something fixed and sure, however small, as a basis on which to erect its structure. It differs from it in putting a 'subjective state' in the place of the '*cogito ergo sum*,' and in regarding its subjective state as real as well as ideal.

Now the idea of basing a metaphysical theory on an indubitable datum is radically false, and involves a mechanical method of procedure and a mechanical view of both thought and reality. In other words, the assumption of such a datum implies that thought links its objects externally one to another, because in existence they are isolated and particular. And just because particulars alone exist and the connexions between them are thought-woven 'spider-webs,' cognition never can correspond to its object. It thus, as the history of Associationism has proved, leads directly through the discrepancy of knowledge and reality

to thorough-going scepticism. But modern logicians contend with considerable unanimity, and, it seems to me, with convincing cogency, that thought does not move from a fixed datum by external aggregation, but by differentiation from within and re-integration. It must of course have a datum; but its datum, so far from being fixed, only gradually reveals what it is in the progressive evolution of knowledge, and so far from being particular it is implicitly all-inclusive. Modern Metaphysics, in accordance with this logical theory, starts from a view of reality as a whole, and not from a fragment; and its task is to expound the inner articulation, the internal harmony of this whole, and not by any means, or in any way, to proceed from the knowledge of one thing to the knowledge of other things. So far as I can see, we are practically forced to choose between these two methods. Lotze and his followers, I need hardly say, mingle these methods as they mingle metaphysical doctrines. But if we recognise the opposition between them, it becomes obvious that we must either adopt Associationism with its external and contingent linking of fact to fact [beginning with a sure one, hopping on to others and assuring them through it, finding its universal both indispensable and untrue, obliged to have 'webs' and obliged to make them spider-films]—or if not we must regard the whole as given at first, and watch its process of inward development. And this second method, if it is consistently carried out, must refuse to characterise its datum except in terms of the revelation it makes of itself during the evolving process. Thus each of its successive characterisations is known to be only proximate, a mere starting-point for a better. It will find certainty, or rather will seek it, in the end and not in the beginning. It possesses no certain fact to begin with; but, on the contrary, it finds its particular fact guaranteed as fact only by reference to the whole system of reality within which the particular fact obtains a place, and in relation to which alone it is real.

The conception that 'certainty' is to be found only in a complete system, in a consistent view of the world as an organic whole, and not in erecting an edifice of knowledge on a fragmentary fixed datum by mechanical means, is due to Kant; and in it lies the living force which brought about the momentous revolution in modern philosophy. His attempt to discover the conditions of experience, the fundamental question of the Critique of Pure Reason, as indicated or expressed in 'How synthetic *a priori* judgments are possible,' signifies that he had, once for all, turned his back on the old method of philosophy which started from psychical

phenomena, from ideas or impressions, and then sought realities corresponding to them; and that, beginning with the conception of knowledge as a whole, or, in other words, of knowledge wherever it can be found, he sought to lay bare its constitutive principle. It is quite true that in his hands the problem assumed what may be called an Epistemological rather than an Ontological form, and that in giving us his theory of knowledge he refused to pronounce upon the nature of reality, or things-in-themselves. But it is also true, in his hands, that the things-in-themselves were gradually deprived of all their significance, that the reality which he considered to be opposed to knowledge became a *caput mortuum*, of no possible interest to any one. He left nothing to distinguish his theory of knowledge from a theory of reality except the thin disguise of the word 'phenomenon'. Thus, whether we accept the higher or the lower interpretation of Kant, it remains true that the revolution in philosophy which he brought about consisted in a fundamental change of method; it consisted in setting forth from experience as a whole (or as such) to investigate its internal conditions, instead of first dogmatically asserting the existence of a fragmentary reality, then linking the rest of reality to it by means of the external categories of mechanism.

Now the attempt which Prof. Seth makes to start from 'subjective states as plain data' is simply a reversion to the old associative method employed by Hume and his school; and it argues that whatever else has been learnt from Kant, the supreme lesson he taught has not been taken to heart. Is it not plain, even yet, that if we begin with 'subjective states' we must either expand these subjective states so as to make them all-inclusive, or else leap from them into something absolutely different? Is it not indisputable that we must conclude either that there is *nothing but* subjective states, or, if there is, that it is absolutely unknowable, and not only unknowable but unbelievable, because inconceivable? We cannot proceed from the part to the whole except by discovering the principle of the whole in the part; we cannot proceed from subjective states to 'other persons and things' except by finding in our subjective states the principle of 'the other persons and things'. In the midstream of Metaphysics we cannot swap horses. Knowledge cannot "leap," nor faith either, if it is 'according to knowledge'. On the other hand, if we do find the principle of the whole in our subjective states, then in dealing with them we are not dealing with 'plain data,' but with the whole of reality implicit in these data which has to be made plain by further knowledge. We are establishing an

Ontology and not an Epistemology. The datum has ceased to be a particular one. If it really were particular we could proceed from it to nothing else. We could not even know it, for thought is surely relative. I do not mean to deny that we know 'subjective states,' or that they are data; but we know them and they are data for further knowledge, because in knowing them we know all reality—in part. Every datum, owing to the organic nature of reality, has in it the principle of the whole and exists only as its manifestation. In this respect a 'subjective state' is as good as any other datum; but it is no better. And the use of the term 'subjective' for a datum of knowledge is worse than useless, for it brings with it misleading associations. That which is a datum, I insist once more, cannot *ex vi termini* be subjective in the sense employed by these writers. The subjective which is a datum for further knowledge is also objective; as a datum it contains in it the principle of the whole. We cannot, except by a process of abstraction and for such merely practical purposes as those of the special sciences, ignore its relation to the whole, tear it from its context, treat it as an isolated part. If we do so tear it, it will lose all its meaning; it will be nothing real, it will not have even the virtue of an interjection. Philosophy exists in order to correct the abstractions of ordinary thought and science. It is false to its peculiar mission if it neglects the reference in every datum to the whole of reality. For it matters not whether we start from the isolated subject or the isolated object; in isolating our datum we have mutilated and paralysed it. We cannot do without a datum, as our critics themselves urge; but every datum we can possibly assume is in its last resort a universal, and the distinction of subjective and objective, like every other, falls within it.

Idealism, in the Berkeleian sense, as a theory of the subjective in pursuit of the objective, is as false as Materialism which starts from a mere object and looks for a subject. And Epistemology, which is engaged with knowledge as distinguished from reality, and which, while pronouncing upon the nature of the former, postpones all questions as to the nature of the latter, is subjective Idealism in disguise. So far from being preliminary to Metaphysics, it is itself a Metaphysical theory and a false one. The 'subjective states' which it assumes are 'plain data,' and, being data, afford a 'foot-hold' from which without break or leap we can proceed to further knowledge. Either Epistemology begins with these data as isolated particulars, and therefore *ends* with them; or else it begins with them as manifestations of a reality which, with all its apparent

and even real differences, is fundamentally one and the same in them and in all other facts. In the latter case it is Metaphysics. It can *appear* to be something else, to be a science preliminary to Metaphysics, only because these subjective states which furnish the theory with its data are at once taken to be real and unreal. It seems to me plain that inasmuch as Reality (or, if the word is preferred, the Absolute) appears in every datum which we can assume, and inasmuch as we must assume a datum, seeing that thought cannot spin *in vacuo* on its own pivot, the search for a form of knowledge preliminary to Metaphysics is futile. No science can be preliminary to Metaphysics. In a strict sense there is no science of the form of knowledge besides Metaphysics; no theory of the not-real or the not-as-yet-real can be invented except by the suicide of reason, and even that would not invent it. All the special sciences are doing the work of Metaphysics, and doing it in an admirable way, even though, or even because, they attempt to justify neither their categories nor their hypotheses. They are in no sense its rivals; nor are they preliminary to it, except in the sense that partial knowledge is preliminary to completer knowledge. If Epistemology in its attempt to avoid being a Metaphysical theory likes to rank with them, and to deal with its data of 'subjective states' in their spirit, relating fact to fact in a consciously abstract way without aspiring to give a final account even of knowledge, I would have no objection to it. I would prefer to call it the Psychology of Cognition, and would be glad to know it more thoroughly, partly because in knowing it better I would *ipso facto* know more of reality as a whole. But a science which postpones *all* reality and proceeds without any datum except bare ideas, which is the first form of Epistemology we have examined, or a science which proceeds with a datum regarded as real and yet as excluding the principle of the whole, which is the second form of it we have examined, seems to me to be radically impossible. We live and move because the whole universe helps us to do so. We know *any* reality because, so far as we do know it, we know all reality. Neither in thought nor in action can we find a 'foot-hold,' a *pied à terre*, except in that which is related to the whole, because it is itself the manifestation of the whole. No preliminary science is either possible or necessary. Epistemologists, instead of standing shivering on the bank asking the futile question whether we can know or not, had better make the plunge. There is no way of learning to swim without going into the water. If they want really to think they must become Metaphysicians.

IV.—ON THEORIES OF LIGHT-SENSATION.

By C. L. Franklin.

The two theories in regard to the sensation produced by light[1] which divide attention at the present time are both thoroughly unsatisfactory. They have, in spite of this fact, together so completely gained possession of the field that time and effort are well spent in setting forth, in plain terms, their weaknesses, and in endeavouring to pave the way for more reasonable conceptions.

Let us consider for a moment what it is that a light-sensation theory has to do. Our knowledge of the nature of the external phenomenon—wave-motion in ether—is highly developed. We are perfectly agreed as to the internal phenomenon—the sensation which the normal human being receives from a given wave-length, and from a given mixture of wave-lengths. We have, moreover, a good idea of the anatomical make-up of that very complicated structure in the back part of the eye, the retina, which, we know, must be the efficient agent in the transformation of light-waves into something capable of being conveyed along the optic nerve and of affecting consciousness as a sensation of light. But as to what it is that takes place in the retina at this momentous moment, we are absolutely in the dark. The function of a light-sensation theory is to make use of the scientific imagination to devise some sort of a process in the retina which shall constitute a reasonable connecting link between these two classes of phenomena—a process, namely, such that it shall plausibly and naturally *result from* the known properties of light, and shall have as its natural and simple *consequences* the known phenomena of light-sensation.

[1] The customary name of the thing of which I am about to speak is "Theory of Colour". That is an adequate designation of the theory of Helmholtz, for that theory supposes that the *sensation white* is nothing but a mixture of the three *colour-sensations*. But it is not at all an adequate designation of the theory of Hering, according to which white is a sensation entirely distinct from a sensation of colour; unless, indeed, one were to maintain that black and white are properly called colours. This would be to make nonsense of the very useful word *colourless*, and it would lead us besides into endless sources of confusion. It is not *colour*, therefore, but *colour plus white* that we need a name for—that is, the entire sensation-quality furnished us by the organ of vision; and to cover this ground there seems to be no other word at hand except *light-sensation*.

As to the actual nature of that process it cannot be too much insisted upon that we have absolutely no knowledge, and that we have no immediate hope of gaining knowledge. In other words, the requirements which a light-sensation theory must meet are, at present, wholly of a *logical* nature, and the proper word for its designation is not theory, but hypothesis. The satisfaction which we should feel in a good hypothesis would be a satisfaction, not of the knowledge-loving, but of the logic-loving part of our emotional nature.

The retinal process which we feel ourselves called upon to feign may be of an electrical nature (we know that, when light falls upon the retina, electrical currents are produced), and it may be of a mechanical nature (Helmholtz' theory originally spoke of vibrations produced in the nerve-ends); a rather good theory by Göller[1] makes use of our knowledge of circularly polarised light; and it may equally well be that the process concerned is of such a kind that it has no counterpart elsewhere in nature, and that we shall never be in a position to comprehend it. But at the present time, the assumption of some sort of photo-chemical process as a basis seems to furnish the most satisfactory results, and it is upon this assumption that the theories of both Helmholtz and Hering are now built up.

What, then, are the respective claims of the theories of Helmholtz and of Hering towards furnishing a logically satisfactory connecting-link between ether-waves and light-sensation? Let us refresh our minds, for a moment, as to the nature of a logically satisfactory theory by considering the theory of the sensation of sound. Here we have, externally, wave-motion, as in the case of light, except that it is wave-motion in a coarser medium and of much slower period. In the ear, we find a structure which is a very good reproduction of a musical instrument. Nothing could be more satisfactory than the supposition that different elements of the basilar membrane vibrate to different musical notes, and convey to the conscious ego the sensations of the musical scale, whether on the principle of local signs, or on some other principle; and this theory has received abundant indirect confirmation. The satisfactoriness of the theory lies in the fact that the aural process assumed is such as to permit a one-to-one correspondence between the external phenomenon-series and the internal sensation-series. For this theory we owe a debt of profound gratitude to the

[1] *Die Analyse der Lichtwellen durch das Auge.* Du Bois-Reymond's *Archiv*, 1884.

incomparable Helmholtz. But has Helmholtz, following Young, been equally happy in his light-sensation theory? Externally, we have a very similar state of things to that which exists in the region of sound, namely, a simple series of vibration-periods. But if we question consciousness, we find something very different in the sensation-scale. For every pure vibration-period there is, as in musical sound, a distinct sensation; but the converse is not true—it is not true that, given the sensation, one can predict the vibration-period—on the contrary, the colour-tone produced by a given vibration-period can, in general, be exactly matched by a large number of *pairs* of vibration-periods, one more and one less rapid than the single one which produces the same result. Moreover, there is a whole series of intermediate sensations between red and blue—the purples—which are produced by no *single* wave-length whatever. The fact that the purples must be mixtures led naturally to the hypothesis that other colour-tones might also be mixtures, and to the assumption of a least sufficient number (three namely) of fundamental sensations, and fundamental retinal processes, out of whose mixtures the whole continuum of colour-sensation might be produced. The colours which are, on very good grounds, assumed as fundamental, are the colours corresponding to the wave-lengths $\lambda = 470$, $\lambda = 505$, and a slightly more purplish red than the extreme red of the spectrum. (By a happy chance, Helmholtz and Hering are in close accord in respect to the fundamental red and blue.) So far as this peculiarity of sensation is concerned, the theory of Helmholtz is fully adequate to its explanation, and if our light-sensations had now been fully described, the theory would be, so far, beyond reproach. But that is not the case. Besides all the colour-sensations, including the purples, we have a whole series of sensations which we call colour-*less*, or grey. (I prefer to extend the ordinary significance of the word *grey*, so as to take in the entire series of black-grey-white sensations. The use of white as the opposite of colour is very misleading; white is the name of the *most intense* of the colourless series.) How does the Helmholtz theory account for the sensation of grey? Helmholtz, as is well known, has been most successful in explaining many of the deliverances of our consciousness to be of the nature of an *illusion of the judgment*. We think we *see* an object, which we are not looking directly at, to be near and another to be far, when in reality the *sensation* is merely one of distance apart of two double images; but this sensation has been wholly merged into a sign for calling up in memory an idea

of how far we should have to move the arms or the legs to reach that object. Again, we say that a given object feels wet; but an attentive analysis shows us that a feeling of wetness is, in reality, a fusion of feelings of smoothness, softness, and cold, and that its illusory unitary character is due to the fact that these three sensations always occur together when we have otherwise knowledge that water has been poured upon the object. In other words, several sensations which are in reality distinct are, to the inattentive observer, fused into a supposed sensation of wateriness, upon the general principle that our sensations are of interest to us merely as signs of external facts, and that a group of well-known sensations may easily seem to be a new, single sensation, when it has a single and constant cause, or when there is any other reason for the sensation-groups always occurring in conjunction. It is upon this principle that Helmholtz explains the sensation of grey or white. There is no such sensation, he says; but, just as when red and yellow are present in a certain proportion, we may call the sensation by a new name, terra cotta, so when red, blue and green are present in equal amounts—that is, when a given object looks just as red as it looks blue, and just as green as it looks red—then we suddenly jump to the conclusion that we have no coloured object at all before us, but a colour-*less* or grey object. In reply to this hypothesis, it must be said, in the first place, that however accustomed we may be to calling a certain sensation terra cotta, we can never lose the consciousness that the colour in question resembles red and resembles yellow in a sense in which it does not resemble green, for instance; but that the very distinguishing characteristic of the sensation white is that the most attentive observation fails to enable us to detect in it the slightest trace of a resemblance to any colour whatever. In the second place, there is not another single quality that all grey objects have in common, nor is there a common cause to which their greyness may be attributed; and hence it is impossible to assign any *ground* for the extraordinary illusion by which an even red-green-blue sensation seems to us to have wholly lost its redness, greenness, and blueness, and to have acquired a sensation-quality of a totally different kind. If grey objects had a common smell, or a common temperature, it might be conceivable that we should always fuse three distinct sensations into one on their behalf, but that is not the case. What Helmholtz asks us to believe about colour would be paralleled in the region of taste, if it were the case that in every mixture two and two of pepper,

vinegar, and oil, we could plainly taste the elements of the combination, but that when even mixtures of the three substances were offered us, the taste of all three constituents should suddenly vanish, and be replaced by a taste of a totally different kind—say by the taste of mustard.

I maintain that so utterly groundless a hypothesis as this would never have obtained a moment's credence, had it not been that at the time it was proposed the science of the *psychology* of the organs of sense had hardly an existence. From the fact that the *physical cause* of the sensation of grey was nothing but the coincidence of the *physical causes* of the sensations red, green, and blue, nothing was easier than the leap to the conclusion that the *sensation grey was* the *coincidence* of the *sensations* red, green, and blue. But this method of deliberately ignoring the deliverances of consciousness has fallen much out of fashion, and it has recently met with a particularly crushing blow; there is a late incident in the history of science which is of extreme importance for the psychologist, but which has not been sufficiently dwelt upon by him. The common man always stoutly maintained that heat and cold felt to him like two different sensation-qualities, incomparable with each other, and not (like heat by itself or cold by itself) like different intensities of one and the same sensation. But the physicist showed him the evenly rising and falling column of mercury in the thermometer, and kindly explained to him that his poor consciousness was thickly overlaid with judgment-illusions, and with that the common man had to be content. But, in the progress of our knowledge, it was discovered that the common man was right, that is, it was discovered that there is a certain degree of energy of ether-vibrations above which the resulting sensations are conveyed by one set of nerves and below which they are conveyed by a different set of nerves. There is, therefore, no reason for doubting that the physiological processes and, all the more, the conscious sensations of heat and cold are, in reality, distinct. This is a piece of science-history from which the physicist, if he is wise, will learn a much-needed lesson of humility.

But all these theoretical considerations, strong as they are and important as they are for the perfecting of our methods, are not essential to the discrediting of the Helmholtz theory. That theory is already rendered sufficiently improbable by its totally inadequate method of accounting for an important series of facts. On the margin of the retina of every human being, and throughout the retina of the totally colour-blind, there is no sensitiveness to colour whatever, but perfect

sensitiveness to differences of brightness. Moreover, when the illumination is very faint, the normal eye sees even in the fovea no colour, but only different intensities of grey, and the distribution of brightness along the spectrum is exactly the same for the normal eye under these conditions, as for the eye of the colour-blind. There is every reason to suppose that these cases of vision without colour are of the nature of defects—that the eye is, in whole or in part, diseased, or in a less highly developed condition than usual. What explanation of these phenomena is offered by the followers of Helmholtz? They ask us to believe that in these abnormal cases the three distinct *photo-chemical processes* exist in their original integrity, only that they have been so altered as regards their receptivity to the influence of light that every vibration of ether (throughout the visible spectrum), no matter what its period, excites them all in the same degree; that whereas these three powers existed in the first instance merely for the sake of enabling us to distinguish between different parts of the spectrum, they are here, for no conceivable purpose, so altered that every part of the spectrum affects them all three exactly alike. They ask us to believe that all three fundamental *sensations* also exist in their original integrity, and that, while we can no longer see red, green, and blue separately, we can still see them in the mixture which we take to be grey with exactly the same perfection as before. Fick, to whom is usually attributed this so-called explanation of non-colour vision,[1] himself admits that so improbable a conception would not have been hit upon, if a theory were now for the first time to be made up, and it must be remembered that, at the time it was broached, the facts were far less well known than they are now. No cases of monocular colour-blindness, either partial or total, had then been discovered; and such cases are of most critical importance for any theory. The original supposition of the Helmholtzians was that one or the other of the three sorts of fibres was either wanting or paralysed; this had in

[1] Fick's explanation was, in reality, first suggested by Helmholtz, although Helmholtz himself seems to have forgotten the fact. The passage in question occurs in the Nachträge to the first edition of the *Physiological Optics*, p. 848: "Man könnte denken . . . dass die Gestalt der Intensitätscurven, Fig. 119, für die drei Arten lichtempfindlicher Elemente sich änderte, wobei dann eine viel grössere Veränderlichkeit in dem Verhalten der objectiven Farben gegen das Auge eintreten könnte". This goes to confirm the remark which a certain German writer on these subjects says his efforts to gain attention are always met with: "Es steht schon alles in Helmholtz!"

fact already been suggested by Thomas Young.[1] A person who is green-blind ought, upon this supposition, to see in white only its red and blue constituents, and hence white ought to look to him as purple looks to us. As long as his defect made him incapable of explaining to us what he felt, this might perfectly well, for aught we knew, have been the case. But we know now that a person who is green-blind in one eye only, sees white with his defective eye exactly the same as he sees it with his normal eye; hence this explanation can only be retained with the aid of an excessively strong draft upon the illusion-of-judgment doctrine. Nevertheless, Helmholtz himself seems not to have given it up (*Physiol. Optik*, pp. 373, 374, new edition). How it can possibly be made to work for total colour-blindness, I am at a loss to understand; when all three fibres are paralysed (or, as Helmholtz would say now, when all three photo-chemical processes are in abeyance), what remains out of which to make the red-blue-green sensation-mixture which we call white? It is true that total colour-blindness is rare, but it is of critical significance, and cases of it have been thoroughly examined both by König and by Hering. It is a singular fact that Helmholtz, in the new edition of his book, gives the briefest possible mention of total colour-blindness (p. 367), and does not mention (so far as I can find) monocular total colour-blindness at all. And yet, if the frog is God's gift to the physiologist, as Huxley has said, it may with still more confidence be affirmed that the existence of monocular colour-blindness is God's gift to the colour-theorist.

The indispensableness, for any one who thinks upon this subject, of a theory which shall make provision for white as a distinct sensation, has caused the theory proposed by Prof. Hering to have many adherents; and his theory is, in fact, far more adequate to the requirements of the case than is the theory of Helmholtz. But at what a cost does he provide us with a separate process for white! In order to accomplish it, he has attached to chemical processes, which indeed are well known to exist, functions which are absolutely without parallel in the physiological economy. Everywhere else the purposes of life—action, feeling, thought—are subserved by the tearing down of complex chemical structures, and these are afterwards built up by internal forces

[1] "It is much more simple to suppose the absence or paralysis of those fibres of the retina which are calculated to perceive red." Quoted by Helmholtz, *Physiol. Optik*, p. 365, new edition.

for the sake of their future useful destruction. But Hering would have us believe that, of the two halves of the spectrum, one acts constructively upon photo-chemical substance, and the other destructively, and that both actions are alike effective in giving us sensations of colour—that processes so widely dissimilar in their nature as assimilation and dissimilation are not only both the basis of sensations, but of sensations so like in quality as are two adjacent colours of the spectrum. And this is not the only fatal objection to the theory of Hering. Hopeless confusion is introduced into all our conceptions of colour when we are asked to believe that the entire brightness of every sensation of light is nothing but the brightness due to the white sensation which is mixed with it. (This difficulty is not obviated by Hering's later view that colours of one end of the spectrum contribute something to the brightness, and those of the other end take something away from it; for there remain intermediate wave-lengths to which the objection applies in its original force.) Can they be thinking beings who have allowed themselves to follow Hering into the intellectual vagary of supposing that a perfectly saturated red, for instance—that is a red wholly free from white admixture—no matter what the amount of chemical activity which called it forth, would have no brightness whatever, that there would be *nothing* in sensation corresponding to differences in amount of this photo-chemical process?

As Prof. Leber has well said, what people have found attractive in the theory of Hering is the fact that it assigns an independent existence to the sensation of grey, and *not* the character of the physiological processes by which the theory is carried out. Not only are those processes theoretically improbable, but there are also other reasons for not believing in them. Experiments by one of the older physiologists, Béclard, are at hand, which show that the effect of light of all colours upon the retina is to increase the amount of carbonic acid given off, and hence to increase the amount of dissimilation which takes place. Whether these experiments have been repeated by later investigators or not I have not been able to find out. But it is certain that the forward motion of pigment-matter among the end-members of the rods and cones under the influence of light[1]

[1] See the plates at the end of Angelucci's *Unters. ü. die Sehthätigkeit der Netzhaut u. des Gehirns.* Giessen, 1890. The heliotropic effects recently investigated by Loeb are of the same nature; "die stärker brechbaren Strahlen des uns sichtbaren Sonnenspectrum die heliotropisch wirksameren sind, wie bei Pflanzen" (*Künst. Umwandlung der heliotrop. Thiere,*

—a motion which, without any doubt, takes place for protective purposes—becomes gradually more marked for the successive colours from red to blue; that there is no indication of a departure, that is to say, from the steadily injurious effect of all portions of the spectrum. Again, strong light of every colour is painful; but is it conceivable that active recuperation of a sensitive substance should be equally disagreeable to us with its rapid exhaustion? None of these facts would be conclusive, perhaps, if it stood alone, but they are of such a uniform nature that together they are not without weight.

A circumstance which has impressed people favourably with the theory of Hering is the belief that it furnishes an explanation of certain very important phenomena—those of contrast and of after-images. These phenomena the theory of Helmholtz can account for only by the aid of the much-overworked illusions of judgment, which Hering has shown by a large number of most ingenious experiments to be in this instance quite inadequate to doing what is demanded of them. But has Hering *explained* the phenomena of contrast, for instance? We must pause for a moment to consider what an explanation is. It is frequently loosely said that a certain theory furnishes an explanation of a certain phenomenon, when what is meant is merely that it is possible to *express* the phenomenon in the terms of the theory, or, in other words, that the phenomenon admits of being translated into the language of the theory. But it is a simple principle, which needs only to be stated to be accepted, that it is only in case the process which, in the theory, corresponds to the phenomenon is a *necessary*, or, at least, a *probable* consequence of the other assumptions of the theory, that the explanation is of a kind by which the theory is at all confirmed. For example, the belief that the phenomena of simultaneous contrast have been *explained* by the theory of Hering, and that this furnishes a strong confirmation of this theory, is wholly erroneous. Hering has shown, indeed, that contrast is not sufficiently accounted for as an illusion of the judgment, and that it must correspond to *some* physiological process in the visual substance. Since now the processes that underlie vision, in his theory, are assimilation and dissimilation, the physiological process which produces the contrast-effect must necessarily, in any instance, be dissimi-

&c. Pflüger's *Archiv*, Bd. xliv., p. 107). There is no trace here of opposing effects of different colours; as always, the difference is merely a difference of degree.

lation or assimilation, as the case may be. So far, this is the simple *translation* of the phenomenon. We have now to ask ourselves, what is the degree of probability of this process taking place under the given circumstances? After a little patch of retina has been undergoing assimilation or dissimilation under the influence of coloured light, what renders it probable that surrounding portions of the retina should immediately be excited to the performance of the antagonistic process? There is a slight difference between the two cases. When a given portion of the retina is undergoing rapid dissimilation, we have a vague feeling, perhaps, that it may seem a little natural that in the surrounding portions more than the usual amount of building up should be going on (and this is the instance of his explanation, which Hering usually advances). But how is it in the other case? If a given portion of the retina is undergoing a rapid assimilation, does that seem to be a sufficient reason why, all around it, a *tearing down* of the visual substance should immediately begin to take place? The improbability of the process in this case far more than counterbalances its slight probability in the other, and hence we ought to say that the phenomena of contrast admit of being *translated* into the language of the Hering theory, but *not* that they do anything whatever to strengthen that theory, nor that they have been, in the proper sense of the word, explained by it.

But in spite of the difficulties of the theory of Hering, it would, perhaps, be necessary to continue to make use of it as a temporary means of holding together a large and complicated body of facts, provided it were impossible to form any other conception of a separate white-process, consistent with the fact that when certain pairs of colour-sensations act together, all sensation of colour vanishes. The theory of light-sensation which I have proposed[1] is not so much intended as the definitive light-sensation theory, but rather as a symbolic representation of the *kind* of theory which alone can offer us, in the present state of our knowledge, any mental satisfaction. Its principal features are these:—

1. In the earliest stage of its development, the visual sense consisted only in the sensation of grey (if we agree to include in the word *grey* the whole black-grey-white series of sensations). This sensation of grey was brought about by the action upon the retinal nerve-ends of a chemical substance set free by means of the decomposition of a certain kind of

[1] *Zeitschrift f. Psych. u. Physiol. der Sinnesorgane*, Bd. iv., 1892.

molecule, which we shall call, for the sake of brevity, the grey-molecule. This molecule is composed of an outer range of atoms, somewhat loosely attached to a firmer inner core, and having various different periods of vibration. The decomposition of this molecule consists in the tearing off of its outer portion, which then becomes the exciter of the nerve-ends, and the immediate cause of the sensation of grey. This tearing off is brought about by the ether-vibrations of the entire visible part of the spectrum, but in the greatest amount by the vibrations somewhat near its middle part, corresponding to the fact that to the totally colour-blind (and to all eyes when the illumination is faint) the green is the brightest part of the spectrum; in fact, the number of molecules decomposed by the different vibration-periods is naturally assumed to be proportional to the corresponding ordinates in the curve which shows the brightness-distribution in the spectrum of the totally colour-blind.

2. In the course of the development of the colour-sense, some of the grey-molecules become differentiated into colour-molecules, and in the following way: The atoms of the outer range segregate themselves into three different groups, or pairs of groups, at right angles to each other, and having three different average velocities. Then the adaptation between the present structure of the retina (as regards colour) and the constitution of physical light consists in the fact that the mean vibration-periods of the atoms of each group are synchronous with (probably are sub-multiples of) certain vibration-periods of the ether—namely, the vibration-periods of the three fundamental colour-tones. Hence when light of a fundamental colour-tone, say green, falls upon the retina, it will have the effect of tearing off from a large number of molecules those atom-groups whose periodicity is such as to render them peculiarly exposed to its shocks, and hence that special chemical substance will be set free which is the exciter of the sensation of green.

3. When the wave-length of the light which falls upon the retina is anywhere between the wave-lengths of two fundamental colour-tones – blue and green, for instance—then a certain number of molecules lose their blue constituents, and a certain number of molecules lose their green constituents, and the resulting sensation is that of a mixture of blue and green. But this effect is exactly the same as that which is produced when the retina is acted upon by a mixture of pure blue light and pure green light; hence we are incapable of distinguishing in sensation between a single intermediate

wave-length and a mixture in proper amounts of two fundamental wave-lengths.

4. There will be certain mixtures of objective light, however, which will have the property of setting free all three kinds of nerve-exciting substance in equal amounts. But these three substances *are* the chemical constituents of the exciter of the grey sensation; hence when they are present in the right amount, they recombine to form that substance, and the sensation produced is exactly the same as that caused by the decomposition of the grey molecules.

5. In all of the five cases in which we are incapable of receiving any sensation but that of grey, it is the grey-molecule which, for one reason or another, is alone decomposed. In the very eccentric part of the retina, the differentiation of the colour-molecule out of the grey-molecule has not taken place; these parts of the retina are chiefly useful to us in warning us of danger from moving insects and other enemies, and for this the power to detect differences of brightness is sufficient. In the case of the congenitally totally colour-blind, the retina is in an atavistic condition,—here, also, the grey-molecules are the only ones which exist. When the portion of the retina affected is very small, or when the illumination is very weak, we may suppose that the colour-molecules are not decomposed in sufficient quantities for their specific character to be detected. When the illumination is very intense, it may be that the colour-molecules have become exhausted sooner than the grey-molecules, or that a strong energy of ether-vibrations affects all of the colour-constituents equally without reference to their periodicity. The important thing in all these cases is the *capacity for independent existence of the substance which excites the sensation of grey.*

6. The explanations which I have just given of the colourlessness of very bright or very faint sensations are merely translations into the language of the theory, and add nothing to its strength. But the case is very different with the explanation which this theory is able to give of after-images and of simultaneous contrast. When red light, say, has fallen for some time upon the retina, a large number of molecules have lost their red-constituents—they have become partly mutilated molecules. But in this condition they are extremely unstable; they gradually go to pieces completely, and the setting free of their remaining constituents, the blue and the green producing parts of the molecules, causes a sensation of blue-green. The red sensation, therefore, in

case of careful fixation, becomes paler and paler; if the objective illumination is weakened, it may even be overpowered by the blue-green sensation;[1] and if the eyes are closed, the blue-green sensation alone remains, after a few seconds, and continues until the injured molecules have all become completely destroyed. Since, as is well known, the circulation in the retina is extremely rapid, the half-mutilated molecules are, in large numbers, dragged across the border of the original image, and there their complete destruction causes the phenomenon of simultaneous contrast.

These are the explanations which this theory offers of what may be called the critical points of colour-vision. It also furnishes an explanation of the following phenomena, which have not hitherto been explained.

a. The retina contains elements of two sorts, which present a very different appearance—the rods and the cones. It has not hitherto been possible to attribute different functions to these elements; the difficulty of doing this comes from the fact that the cones must be *sufficient* for vision, since they alone occur in the spot where vision is the most acute, while the rods must play *some* important *rôle*, because they resemble the cones very much in structure, and in the periphery the cones are almost wholly wanting. But if we assume that the cones contain colour-molecules, and hence give us sensations both of colour and of grey, but that the rods contain only the undeveloped grey-molecules, and hence give grey sensations only, the distribution of rods and cones in the retina becomes perfectly comprehensible. Very interesting experiments of Eugen Fick[2] permit us to lay down the following relation between retinal structure and light-sensation for just perceptible excitations.

[1] This occurs in the following slight modification of a most simple and most beautiful experiment of Hering's. Put a bit of bright red paper in a box held vertically in the hand, in such a way that a strong light falls upon the paper. After a few moments' fixation, *turn around;* the paper will now be shadowed by the walls of the box, and the difference in illumination is enough to cause the paper to be spread over with a bright layer of the complementary colour. That is, the after-image of the first bright impression is strong enough to blot out completely the actual red paper, although it is still looked at with open eyes, and in a not faint illumination. To attribute this to a residuum in the self-light of the retina, as Helmholtz must do, is to be utterly oblivious to the relations which ought to hold between the magnitudes of cause and of effect.

[2] Pflüger's *Archiv*, Bd. xliv., 1888.

In the fovea, only cones; maximal colour-sense and non-maximal "grey-sense".	In the next following zones of the retina, a gradually increasing number of rods and diminishing number of cones; an increasing sensitiveness to grey light, and a diminishing sensitiveness to colour.	In the remote retinal zones, almost exclusively rods, and almost no colour-sense.

A better case of the application of the method of concomitant variations it would be difficult to find. The retina of a totally colour-blind person has never yet been examined. If it should turn out that it contained rods only and no cones, that would be a very pretty confirmation of this supposition; but if not, one might still suppose that the cones in this case contained only grey-molecules, and that the atavism consisted in the non-development of molecules and not of retinal elements. It remains to be mentioned that if this distribution of functions of retinal elements is a correct one, then the structure of the eye offers in this respect a perfect analogy with that of the organ of hearing; in the ear also we have apparently a very simple apparatus for conveying sensations of noise only, persisting by the side of a more highly developed apparatus adapted to the discrimination of different vibration-periods of the affecting medium.

β. A second phenomenon which this theory explains is the superior saturation of the spectral colours red, green, and blue, and the lesser saturation of yellow and blue-green. The number of molecules decomposed by a given kind of light depends upon the closeness of the coincidence of the vibration-periods. For wave-lengths half way between those of two fundamental colour-tones, this coincidence will be very slight, and hence the number of colour-molecules decomposed will be small. There is therefore only a small amount of colour-sensation to be mixed with the accompanying grey sensation, and the resulting colour-tone is therefore very little saturated. That green is less saturated than the other two fundamental colours is again a necessary consequence of the fact that in this part of the spectrum the amount of grey process reaches its maximum, as is proved by the brightness-curve of the colour-blind and that of the normal eye when the illumination is very faint.

γ. But these same considerations lead us to the explanation of a third phenomenon—of the fact, namely, that the sensitiveness of the eye to change of colour per change of wave-length is much greater in the yellow and the blue-green than in any other part of the spectrum: where the

number of colour-molecules decomposed by a given wave-length is relatively small, a given amount of change of wave-length is necessarily the more effective in changing the quality of the sensation.

To resume: the principal points of difference between the theory of light-sensation here proposed and the now commonly accepted theories are the following: While the Young-Helmholtz theory supposes that the judgment picks out all the even red-green-blue *sensations*, and deceives itself into thinking them to be a new sensation, white, this theory assumes an independent retinal process as ground for the sensation of white,—a process which, in early stages of development, existed by itself, but which is of such a nature that the three colour-processes, when they do arise, flow together, and mechanically, inevitably, reproduce the *process* which corresponds to white. After-images and simultaneous contrast, instead of being an affair of the judgment, are due to the gradual complete destruction of molecules whose capacity to exist for a time in a partially decomposed state has made it possible for us to distinguish between the different parts of the visible spectrum. The theory differs from that of Hering, in that it assumes processes which are physiologically conceivable, and allows us to conceive of brightness as the amount per unit of time of the physiological process,—colour-process and white-process being combined in our estimation of the total amount. Moreover, it assumes that two complementary colour-processes unite to produce a certain amount of white-process, and not that they destroy each other, and merely leave behind a white-process which was already present.

This last assumption of Hering's would seem indeed to be distinctly contradicted by the following fact, which is new. If two different greys are composed upon the colour-wheel, one of blue and yellow, and one of red and green, and if they are then made of exactly equal brightness by adding black to that one of them which happens to be the brighter, the two greys ought to be under all circumstances indistinguishable, if it be true that the colour-processes have simply destroyed each other. But they are not indistinguishable. If the objective illumination is made very faint it will appear that the grey composed of red and green has become *very much* brighter than that composed of blue and yellow. It is necessary, under certain circumstances, to add a white sector of 25° to the grey composed of blue and yellow in order to restore the equality in brightness. I was led to the conclusion that this would be the case (after having been long

in search of *some* difference between two differently constituted greys) by a comparison of Prof. König's elaborate measurements of the Purkinje phenomenon in the Helmholtz *Festschrift* (Hamburg and Leipzig, 1891), and upon trying the experiment in his laboratory I found that my prediction was verified. The fact is quite incompatible, so far as I can see, with Hering's theory, as Hering at present conceives it.

My theory is a three-colour theory instead of a four-colour theory. Four colours satisfy the requirements of consciousness somewhat better than three,—yellow does not look exactly like a mixture. But a large number of brilliant observations by Prof. König,[1] carried out by means of a far more accurate apparatus for mixing colours than has been employed by any one else, are incapable of being accounted for except by a three-colour theory. The nature of these observations is not such that their significance can be perceived without close study, and hence it is not surprising that proper weight has not hitherto been attributed to them. On the other hand, the dictum of consciousness as regards the non-mixed character of yellow can be satisfied upon my theory, if we assume, as we readily may, that the first differentiation of the substance of the grey-molecule was into two colour substances, blue and yellow, that the yellow was subsequently separated into red and green, and that when the red and green substances are now produced in equal amounts, they unite to form a definite chemical compound, the exciter of the sensation of yellow, which consequently does not have the appearance of being a mixture. In this way, also, we are able to take account of the observations of Hess, which seem to show that the blue sense and the yellow sense are developed together at a definite distance from the fovea, and that the red sense and the green sense are added to them at another definite and smaller distance. It is therefore possible to take account of the independent character of yellow without giving up the extreme advantages of a three-colour theory.

All theories of light-sensation (with slight exception) suppose the dissociation of chemical molecules. My theory shares with that of Donders the characteristic that it makes use of the conception of a possible *partial* dissociation of molecules. It was while I was engaged, a year ago, in writing an article to show that the theory of Donders was

[1] Sitzungsberichte der Berl. Akad. vom 29 juli, 1886, and *Zeitschrift f. Psych. u. Physiol. der Sinnesorgane*, Bd. iv., Heft 1, 2.

incomparably more efficient in furnishing a reasonable connecting link between external fact and internal sensation than either that of Helmholtz or of Hering, that it suddenly occurred to me that the required task could be accomplished in a yet better way. As the theory of Donders has met with no attention, and as I hope that my own will chance upon a better fate, I do not stop here to point out the differences between his theory and mine; I am content, in the first instance, if either should awaken interest. I have, however, pointed out elsewhere what seems to me to be a fundamental difficulty in his theory (*Proceedings of the Congress of Experimental Psychology*, London, 1892, p. 107). The theory, moreover, is necessarily a four-colour theory, and he was himself so strongly convinced of the necessity of a three-colour theory for the explanation of some of the facts of colour-vision (although the experiments of König above referred to had not at that time been made) that he supplemented his four-process theory in the retina by a three-process theory in the higher centres. The awkwardness of this supposition doubtless did much to prevent his theory from arousing attention. The explanation of selective dissociation by light as a result of synchronism in vibration-periods is not possible to his theory. To Donders, however, is due the credit of having first insisted upon it that the colour-sense is a later addition to an earlier existing light-sense; he shows that in no other way is it easy to account for the remarkable fact that while four per cent. of men are colour-blind, the defect is almost unknown among women.

Lest it should be said, in criticism of my theory, that the existence of such molecules as I here assume can never be established, I mention once more explicitly that they are not so much intended as real molecules, but rather as diagrammatic molecules,—as molecules, that is, which are possessed of such properties as would enable them to carry out the logical requirements of a light-sensation theory. I make no claim to having hit upon *the* process which goes on in the photo-chemical substance, but merely to having described *a* process which might with perfect plausibility *result from* the action of ether-waves upon the retina, and *from which would result* all the facts of light-sensation. More than this no hypothesis, in the present state of our knowledge, can hope to do.

[An important Appendix to this article, criticising the recently published theory of Dr. Ebbinghaus, will appear in the next number of MIND, under "Discussions".]

V.—TIME AND THE HEGELIAN DIALECTIC. (I.)

By J. Ellis McTaggart.

One of the most interesting and important questions which arise in connexion with Hegel's philosophy is the question of the relation between the succession of the categories in the dialectic and the succession of events in time. Are we to regard the complex and concrete Absolute Idea, in which alone true reality is to be found, as gradually growing up in time by the evolution of one category after another? Or are we to regard the Absolute Idea as existing eternally in its full completeness, and the succession of events in time as something which has no part in any ultimate system of the universe?

The succession of categories in Hegel's Logic is, of course, not primarily a temporal succession. We pass from one to another because the admission of the first as valid logically requires the admission of the second as valid. At the same time there are various reasons for accepting the view that one category succeeds another in time. One of the facts of the universe which requires explanation is the existence of time, and it seems at first sight a simple and satisfactory explanation to account for it by the gradual development of the notion from Pure Being to the Absolute Idea. And Hegel certainly explains history to some extent by bringing the successive events under the successive categories.

Nevertheless, it seems to me that such a view is incompatible with the system. In the first place, the theory that time is an ultimate reality would lead to insoluble difficulties as to the commencement of the process. Secondly, the Absolute Idea must be held to be the presupposition and the logical *prius* of the lower categories. It follows that a theory which makes the appearance of the lower category the presupposition of the appearance of the higher one, cannot fully represent the ultimate reality of the process. And, finally, Hegel's language seems to be decisively on the side of the hypothesis that the Absolute Idea exists eternally in its full perfection, and that the movement from the lower to the higher is reconstruction and not construction.

Let us consider the first of these points. Hegel, of course, maintains that the universe is fully rational. Can we regard as

fully rational a universe in which a process in time is a fundamental reality? The theory before us maintains that the universe starts with a minimum of reality, corresponding only to the category of Pure Being. From this point it develops by the force of the dialectic. Gradually each of the higher categories becomes real, and this gradual evolution of logical completeness makes the process which constitutes the life of the universe. All the facts around us are to be attributed to the gradually developing idea, and when the development is complete, and reality has become an incarnation of the Absolute Idea, then the process will end in perfection. The spirituality of the universe, up till then implicit and partial, will have become complete and explicit. The real will be completely rational, and the rational will be completely real.

On this we must remark, in the first place, that the process in time by which the dialectic develops itself must be regarded as finite, and not as infinite. Neither in experience nor in *a priori* criticism can we find any reason to believe that infinite time really exists, or is anything more than an illegitimate inference from the infinite extensibility of time. Nor, if it did exist, could it form part of an ultimate rational explanation of the universe. An unending regress, whether true or not, is certainly not a solution which meets the demands of reason. More especially is it impossible that it should be accepted as part of an Hegelian theory. For infinite time would be the strongest possible example of the "false infinite" of endless aggregation, which Hegel invariably condemns as a mere mockery of explanation.

And, independently of this, it is clear that an infinite series in time would not be an embodiment of the dialectic. For the dialectic is most emphatically a process with a beginning and an end, and any series which embodies it must have a beginning and an end also. If the dialectic has any truth at all, there can be no steps before Pure Being, nor any steps after the Absolute Idea. The process must commence at a fixed point, and cannot therefore occupy infinite time.

We may take it then that the theory which imagines the dialectic to develop itself gradually regards it as doing so in a limited time. What follows from this hypothesis?

The first difficulty which arises is that every event in time requires a previous event as its cause. How then shall we be able to explain the first event of the complete series. The first term, like all the others, is an event in time, that is, it had a beginning, before which it did not exist. What determined the change which brought it into existence?

Whatever determined it must be itself an event in time, for if it had not a definite place in the time series it could not account for its effect having one. But in this case it will itself need a determining cause, which will also be an event, and we have thus lost our finite series with a definite beginning, and embarked on an infinite series, which cannot, as we have seen, be of any assistance to us in our present purpose.

On the other hand, to deny that the first term of such a series requires a determining cause is impossible. It is perhaps not impossible that our minds should form the conception of something on which other things depend, while it depends itself on nothing. But an event in time could never hold such a place. For an event in time has always before it a time when it was not, and this coming into existence deprives it of the possibility of being self-subsistent. Time, as Hegel expresses it, is that which is outside itself. It has no principle of unity or coherence. It can only be limited by something outside itself. Our finite series in time can only have the definite beginning which it requires by means of further time beyond it. To fix any point in time is to imply the existence of time upon both sides of it. And thus no event in time could be accepted as an ultimate beginning. On the other hand, some such event would have to be accepted as the ultimate beginning, if a finite series were to be accepted as an ultimate explanation.

If we apply this to the particular problem before us we shall find that the theory that the Absolute Idea develops in time lands us in a hopeless difficulty. Let us suppose that all the phenomena of the universe have been accounted for as the manifestations of the gradually developing Idea, and let us suppose that each of these manifestations of the Idea has been shown to be the logical consequence of the existence of the previous manifestation. Then the final and ultimate fact upon which our explanation will depend will be that at the beginning of time the first of the categories—the category of Pure Being—manifested itself in reality. And for this fact itself an external explanation is required. No such explanation, indeed, would be required for the deduction of the universe from the idea of Pure Being. If the system is correct, the categories are so inseparably connected that the existence of one stage in the dialectic process implies the existence of all, and the existence of any reality, again, implies the existence of the categories. The category of Pure Being can thus be deduced from the existence of the universe as a whole, and the existence of the universe as a

whole does not require, as it does not admit, any outside cause. But here, to account for the existence of the universe in time, we have taken as our ultimate fact the realisation of the first category at a particular time. Time is in itself quite empty and indifferent to its content. No possible reason could be given why the process should not have begun a hundred years later than it did, so that we should be at the present moment in the middle of the French Revolution. The only way of fixing an event to a particular time is by connecting it with some other event which happened in a particular time. This would lead here to an infinite regress, and, independently of this, would be impracticable. For, by the hypothesis, the dialectic development was to account for the entire universe, and there can, therefore, be no event outside it to which it can be referred in order that it can be accounted for itself. And yet the question—why it happened now and not at another time—is one which we cannot refrain from asking, since time must be regarded as infinitely extensible.

Various attempts have been made to evade this difficulty. It has been suggested that the temporal process has its root in a timeless state. If we ask what determined the first event, we are referred to the timeless state. If we ask what caused the latter, we are answered that it had no beginning, and consequently required no cause.

But how could a timeless reality be the cause of a succession in time? It could, no doubt, be the cause of everything else in a series of successive events, except of the fact that they did take place in time. But how are we to account for that? No reconciliation and no mediation is possible upon the hypothesis with which we are here dealing. According to some views of the question time might be regarded as nothing but a form assumed by eternity, or time and the timeless might be regarded as forms of a higher reality. But such a view is impossible here. The theory which we are here considering had to explain the fact of a succession in the universe, and did so by making the central principle of the universe to be the realisation of the dialectic in time. The realisation in time, according to this theory, is as much part of the ultimate explanation of the universe as the dialectic itself. By making time ultimate we certainly get rid of the necessity for explaining it. But, on the other hand, we lose the possibility of treating time as a distinction which can be bridged over, or explained away, when we wish to make a connexion between time and the timeless. If time is an ultimate fact, then the distinction

between that which does, and that which does not, happen in time, must be an ultimate distinction; and how are we to make, if this is so, a transition from the one to the other?

So far as a thing is timeless, it cannot change, for with change time comes necessarily. But how can a thing which does not change produce an effect in time? That the effect was produced in time implies that it had a beginning. And if the effect begins, while no beginning can be assigned to the cause, we are left to choose between two alternatives. Either there is something in the effect—that is, the quality of coming about as a change—which is altogether uncaused. Or the timeless reality is only a partial cause, and is determined to act by something which is not timeless. In either case the timeless reality fails to explain the succession in time, and we are no better off than we were before. It would be equally available as an explanation if the process had begun at any point besides the one at which it actually did begin, and a cause which can remain the same while the effect varies is obviously unsatisfactory.

It may be objected in answer to this that, if the dialectic process is the ultimate truth of all change, the point in time at which it is to begin is determined by the nature of the case. For time only exists, when change exists. The changeless would be the timeless. Therefore the beginning of the change must come at the beginning of time, and there can be no question why it should come at one moment rather than another.

This, however, is unsound. Actual time may only have begun with actual change. But possible time stretches back indefinitely beyond this. It is part of the essential nature of time that beyond any given part of it we can imagine a fresh part—indeed we must do so. We cannot conceive time as coming to an end. And with this indefinite stretch of possible time, the question again arises—what determined the timeless to produce change at the point it did, and not in the previous time, which we now regard as possible only, but which would have become actual by the production of change in it? And again there is no reason why the series of actual time should not have been placed later in the series of possible time than it actually was. Actual time begins whenever change begins, and so cannot be regarded as a fixed point by which the beginning of change can be determined. A certain amount of the dialectic process has now been realised in time. Can we give any reason why the amount should not have been greater or less? Yet if no such reason

can be given, the present state of the universe is left unaccounted for by our system.

The difficulty lies in the fact that we are compelled by the nature of time to regard the time series as indefinitely extended, and to regard each member of it as, in itself, exactly like each other member. We may call that part of the series which is not occupied by actual change, possible time, but the very name implies that there is no reason why it should not have been occupied by events, as much as the past which actually is so. And as possible time is indefinite it is indefinitely larger than any finite time. The question we have been discussing will then take the form—why is this particular part of the time series filled with reality rather than any other part? And since, apart from its contents, one moment of time is precisely like another, it would seem that the question is insoluble.

It has sometimes been endeavoured to ignore on general grounds all attempts to show that development throughout a finite period in time cannot be accepted. Time, it has been said, must be either finite or infinite. If we accept the objections to taking finite time as part of our ultimate explanation, it can only be because we are bound to an infinite regress. An infinite regress involves infinite time. But infinite time is impossible—an unreal abstraction, based on the impossibility of limiting the regress in thought. Any argument which involves its real existence is thereby reduced to an absurdity. And since the objections to finite time as part of our ultimate explanation do involve its real existence, we may, it is asserted, safely ignore the objections and accept the principle.

The first objection which we must make to this is that the argument might as well be reversed. If the difficulties in the way of infinite time are to be taken as a reason for ignoring all difficulties in the way of finite time, why should we not make the difficulties in the way of finite time a ground for accepting with equally implicit faith the existence of infinite time?

Nor can we escape by saying that we do know finite time to exist, and that therefore we are entitled to ignore the objections to it, while we accept the objections to infinite time. For we have no more experience of finite time, in the sense in which the phrase is used in this argument, than we have of infinite time. What we meet in experience is a time series, extending indefinitely both before and after our immediate contact with it, out of which we can cut finite portions. But for a theory which makes the develop-

ment of the notion in time part of its ultimate formula, we require a time which is not merely limited in the sense of being cut off from other time, but in the sense of having none before and none after it. Of this we have no more experience than we have of infinite time, and if there are difficulties in the way of both we have no right to prefer the one to the other.

Since either hypothesis as to the extension of time leads us into equal difficulties, our course should surely be not to accept either, but to reject both. Time must be either finite or infinite, we are told. But there is a third alternative. There may be something wrong in our conception of time, or rather, to speak more precisely, there may be something which renders it unfit, in metaphysics, for the ultimate explanation of the universe, however suited it may be to the finite thought of every-day life. If we ask whether time, as a fact, is finite or infinite, we find hopeless difficulties in the way of either answer. Yet if we take time as an ultimate reality, there seems no other alternative. Our only resource is to conclude that time is not an ultimate reality.

This is the same principle which is at work in the dialectic itself. When we find that any category, if we analyse it sufficiently, lands us, in its application to reality, in contradictions, we do not accept one contradictory proposition and reject the other. We conclude the category in question to be an inadequate way of looking at reality, and we try to find a higher conception, which will embrace all the truth of the lower one, while it will avoid the contradictions. This is what we ought, it would seem, to do with the idea of time. If it only presents us with a choice between impossibilities, we must regard it as an inadequate way of looking at the universe. And in this case we cannot accept the development of the dialectic in time as part of our ultimate solution.

Beside these difficulties, which would equally perplex any idealistic system which adopted a time process as an original element, there is another which belongs specially to the dialectic. It appears to be essential to the possibility of a dialectic that the highest term in which the process ends shall be taken as the presupposition of all the lower terms. The passage from category to category must not be taken as an actual advance, producing that which did not previously exist, but as an advance from an abstraction to the concrete whole from which the abstraction was made—demonstrating and rendering explicit what was before only implicit and immediately given, but still only reconstructing and not constructing anything fresh.

This view of Hegel's system becomes inevitable when we consider, on the one hand, that his conclusion is that all that is real is rational, and, on the other hand, that his method consists in proving that each of the lower steps of the dialectic, taken by itself, is not rational. We cannot then ascribe reality to any of these steps, except in so far as they lose their independence and become moments of the Absolute Idea.

We are compelled, according to Hegel, to pass from each thesis and antithesis to their synthesis, by discovering that the thesis and antithesis, while incompatible with one another, nevertheless involve one another. This produces a contradiction, and this contradiction can only be removed by finding a term which reconciles and transcends them.

Now if we suppose that the dialectic process came into existence gradually in time, we must suppose that all the contradictions existed at one time or another independently, and not reconciled, *i.e.*, as contradictions. Indeed, as the time process is still going on, all the reality round us at the present day must consist of unreconciled contradictions.

This would be inconsistent with the law of Contradiction. To say that the world consists of reconciled contradictions would produce no difficulty, for it means nothing more than that it consists of things which appear contradictory when not thoroughly understood. But to say that a contradiction can exist as such would plunge us in utter confusion. All reasoning, Hegel's as much as anybody else's, rests on the law that two contradictory propositions cannot both be true. It would be useless to reason, if, when you had demonstrated your conclusion, it was as true to assert the opposite of that conclusion.

And, again, if contradictory propositions could both be true, the special line of argument which Hegel follows would have lost all its force. We are enabled to pass on from the thesis and antithesis to the synthesis just because a contradiction cannot be true, and the synthesis is the only way out of it. But if contradictions are true, there is no necessity to find a way out of it, and the advance of the dialectic loses all its force. If the contradictions exist at all, there seems no reason that they should not continue to do so. We should not be able to avoid this by saying that they are real, but that their imperfection made them transitory. For the dialectic process, even if we suppose it to take place in time, is not a mere succession in time, but essentially a logical process. Each step has to be proved to follow from those before it by the nature of the latter. It is clear that

it would be impossible, by mere analysis of a logical category, to deduce the conclusion that for some time it could exist independently, but that after that its imperfection would drive it on to another stage.

It is only on the supposition that reality always corresponds to the Absolute Idea, and is not merely approximating to it, that we can meet another difficulty which is propounded by Trendelenburg. Either, he says, the conclusion of the whole process can be obtained by analysis of the original premise, or it can not. The original premise of the whole process is nothing but the validity of the idea of Pure Being. If the whole conclusion can be got from this, we learn nothing new, and the whole dialectic process is futile. If, on the other hand, we introduce anything not obtained from our original premise, we fail in our object—which was to prove that the whole system followed when that premise was once admitted.

The only escape from this difficulty is to be found in realising that though the validity of the lower category is the only explicit admission required for the process, it is not the only material we have before us. Categories are forms of thought which we apply to reality, and which have no meaning except as so applied. And all reality embodies, as it must do to be self-consistent and free from contradictions, the Absolute Idea, although in many cases when we experience reality much of this is only implicit. In all our consciousness, therefore, we have implicit the whole process and result of the dialectic, although in many cases only few categories are explicitly acknowledged to be valid. And it is the conjunction of the explicit partial truth with the reality which implicitly contains the whole truth, which forces the mind on to a more adequate explicit statement.

This is brought out by Mr. Bradley in his *Logic* (book iii. part i. chap. ii., §§ 20 and 21): "An idea prevails that the dialectic method is a sort of experiment with conceptions *in vacuo*. We are supposed to have nothing but one single isolated abstract idea, and this solitary monad then proceeds to multiply by gemination from or by fission of its private substance, or by fetching matter from the impalpable void. But this is a mere caricature, and it comes from confusion between that which the mind has got before it and that which it has within itself. Before the mind there is a single exception, but the whole mind itself, which does not appear, engages in the process, operates on the *datum* and produces the result. The opposition between the real, in that fragmentary character in which the mind possesses it, and the

true reality felt within the mind, is the moving cause of that unrest which sets up the dialectical process." And again: "The whole, which is both sides of this process, rejects the claim of a one-sided *datum*, and supplements it by that other and opposite side which really is implied—so begetting by negation a balanced unity. This path once entered on, the process starts afresh with the whole just reached. But this also is seen to be the one-sided expression of a higher synthesis; and it gives birth to an opposite which co-unites with it into a second whole, a whole which in its turn is degraded into a fragment of truth. So the process goes on till the mind therein implicit finds a product which answers its unconscious idea; and here, having become in its own entirety a *datum* to itself, it rests in the activity which is self-conscious in its object."

If we hold, according to this view, that the dialectic process depends on the relation between the concrete whole and the part of it which has as yet become explicit, it is clear that we cannot regard the concrete whole as produced out of the incomplete and lower category by means of the dialectic process, since the process cannot exist without the whole which is its presupposition.

Hegel's own language appears to me to confirm this theory. There is nothing contrary to it in his attempt in the Philosophy of Religion, the Philosophy of History, and the History of Philosophy to explain various successions of events in time as manifestations of the dialectic. If the dialectic is the key to the universe, then, whenever we do view the universe under the aspect of time, the different categories will appear as manifesting themselves as a process in time. But the fact that they can appear successively, and in time, does not necessarily imply that they came into existence successively, and are fundamentally a time series.

Even in this part of his work, too. Hegel's adherence to the eternal nature of the dialectic becomes evident in a manner all the more significant because it is logically unjustifiable. In several places he seems on the point of saying that all dissatisfaction with the existing state of the universe, and all efforts to reform it, are futile and vain, since reason is already and always the sole reality. The conclusion cannot be fairly drawn from the eternity of the dialectic process. For if we are entitled to hold the universe perfect, the same arguments lead us to consider it also timeless and changeless. Imperfection and progress then may claim to share whatever reality is to be allowed to time and change, and no conclusion can be drawn, such as Hegel

appears at times inclined to suggest, against attempting to make the future an improvement on the past. But the very fact that he has gone too far in his application of the idea that the dialectic is timeless makes it more clear that he did hold that idea.

There are not, I believe, any expressions in the *Logic* which can be fairly taken as suggesting the development of the dialectic. It is true that two successive categories are named Life and Cognition, and that science informs us that Life existed in this world before Cognition. But the names of the categories must be taken as those of the phenomena in which the idea in question shows most clearly, and not as indicating the only form in which the idea can show itself at all. Otherwise we should be led to the impossible result that Notions, Judgments, and Syllogisms existed before Cognition.

The strongest expression of the eternal nature of the process is to be found in the *Encyclopædia* (§ 212, Lecture Note). "Die Vollführung des unendlichen Zwecks ist so nur die Täuschung aufzuheben, als ob er noch nicht vollführt sey. Das Gute, das absolut Gute, vollbringt sich ewig in der Welt, und das Resultat ist, dass es sich an und für sich vollbracht ist und nicht erst auf uns zu warten braucht."

Another important piece of evidence is his treatment of his own maxim: "All that is real is rational". To the objections to this he replies, firstly, by saying that reality does not mean the surface of things, but something deeper behind them. Besides this he admits occasionally, though apparently not always, that contingency has rights within a sphere of its own where reason cannot demand that everything should be explained. But he never tries to meet the attacks made on his principle by drawing a distinction between the irrational reality of the present and the rational reality of the future. Such a distinction would be so natural and obvious, and would, for those who could consistently make use of it, so completely remove the charge of a false optimism about the present, that we can scarcely doubt that Hegel's neglect of it was due to the fact that he saw it to be incompatible with his principles.

Hegel's treatment of time, moreover, confirms this view. For he considers it merely as a stage in the Philosophy of Nature, which is only an application of the Logic. Now if the realisation of the categories of the Logic only took place in time, time would be an element in the universe, correlative with the Logic, and of equal importance in it.

Both would be equal elements in a concrete whole. Neither could be looked on as an application of, or deduction from, the other. But the treatment of time merely as one of the phenomena which result from the realisation of the Logic is incompatible with such a theory as this, and we may fairly conclude that time had not for Hegel this ultimate importance.

We have thus arrived at the conclusion that the dialectic is not for Hegel a process in time, but that the Absolute Idea must be looked on as eternally realised. We are very far, however, from having got rid of our difficulties. We seem, indeed, to be brought to a *reductio ad absurdum*. For if the other theory was incompatible with Hegel, this seems to be incompatible with the facts.

The dialectic process is one from incomplete to complete rationality. If it is eternally fulfilled, then the universe must be completely rational. Now, in the first place, it is certain that the universe is not completely rational for us. We are not able to see everything round us as a manifestation of the Absolute Idea. Even those students of philosophy who believe on general grounds that the Absolute Idea must be manifested in everything are as unable as the rest of us to see how it is manifested in a table or a thunder-storm. We can only explain these things by much lower categories, and we cannot, therefore, explain them completely. Nor are we by any means able to eliminate completely the contingency of the data of sense, without which the categories are void and meaningless, and a universe which contains an ultimately contingent element cannot be held to be completely rational. It would seem, too, that if we are perfectly rational in a perfectly rational universe, there must always be a complete harmony between our desires and our environment. And this, too, is not invariably the case.

But if the universe appears to us not to be perfect, can it be so in reality? Does not the very failure to perceive the perfection destroy it? In the first place, the Absolute Idea, as laid down by Hegel, is one of self-conscious rationality—the Idea to which the Idea itself is "Gegenstand und Objekt" (*Encyclopædia*, § 236). If any part of reality sees anything, except the Absolute Idea, anywhere in reality, this ideal can scarcely be said to have been fulfilled.

And, more generally, if the universe appears to us to be only imperfectly rational, we must be either right or wrong. If we are right, the world is not perfectly rational. But if we are wrong, then it is difficult to see how we can be perfectly rational. And we are part of the world. Thus it

would seem that the very opinion that the world is imperfect must, in one way or another, prove its own truth.

If this is correct, we shall be confronted with a difficulty as hopeless as that which encountered us when we supposed the dialectic to develop itself in time. For these latter were due to our hypothesis being found incompatible with the system, while our present view is untenable because, though a logical development from the system, it appears incompatible with the facts. The result with regard to the first is that we come to the conclusion that the development in time cannot be part of Hegel's philosophy. The result of the second would at first sight seem to be that Hegel's philosophy must be abandoned, since it leads to such untenable conclusions.

We rejected the hypothesis of the development of the Absolute Idea in time upon two grounds. The first was that we had to choose between a false infinite and an uncaused beginning. Each of these hypotheses left something unexplained and contingent, and was consequently incompatible with a system which demanded above all things that the universe should be completely rationalised, and which believed itself to have accomplished its aim. Our second objection was due to the fact that the development of the dialectic at all, upon Hegel's principles, presupposed the existence of its goal, which could not therefore be supposed to be reached for the first time by the process. But our difficulty now is not at all incompatible with the system. It is one which must arise from it, and which must, in some form or another, arise in any system of complete idealism. Every such system must declare that the world is fundamentally rational and righteous throughout, and every such system will be met by the same difficulty. How, if all reality is rational and righteous, are we to explain the irrationality and unrighteousness which are notoriously part of our every-day life? We must now consider the various attempts which have been made to answer this question.

Hegel's answer has been indicated in the passage quoted above from the *Logic* (§ 21). The infinite end is really accomplished eternally. It is only a delusion on our part which makes us suppose otherwise. And the only real progress is the removal of the delusion. The universe is eternally the same, and eternally perfect. The movement is only in our minds. They trace one after another in succession the different categories of the Logic, which in reality have no time order, but continually coexist as

elements of the Absolute Idea which transcends and unites them.

This solution can, however, scarcely be accepted, for the reasons given above. How can we account for the delusion that the world is partially irrational, if, as a matter of fact, it is completely rational? How, in particular, can we regard such a delusion as compatible with our own complete rationality?

To this it may be possibly objected that our argument is based on a confusion. That a thought is a delusion need not imply that it, or the being who thinks it, is irrational. Everything which, like a thought, is used as a symbol, can be viewed in two aspects—firstly as a fact, and secondly as representing, as a symbol, some other fact. In the first aspect we say that it is real or unreal; in the second that it is true or false. These two pairs of predicates have no intrinsic connexion. A false judgment is just as really a fact as a true one.

Now the conclusion from the Hegelian dialectic was that whatever was real was rational. We are, therefore, compelled to assert that every thought, and every thinking being, are completely rational—can be explained in a way which gives entire rest and satisfaction to reason. But, it may be said, this is not in the least interfered with by the fact that many real thoughts are defective symbols of the other reality which they profess to represent. The false can be real—indeed, must be—for a thought cannot misrepresent reality unless it is itself real. Till it is real it can do nothing. And if it can be real, why can it not be rational? Indeed we often, in every-day life, and in science, do find the false to be more or less rational. It is as possible to account, psychologically, for the course of thought which brings out an erroneous conclusion as for the course of thought which brings out a correct one. We can explain our failures to arrive at the truth as well as our successes. It would seem then that there is nothing to prevent ourselves and our thoughts being part of a completely rational universe, although our thoughts are in some respects incorrect symbols.

But it must be remembered that the rationality which Hegel requires of the universe is much more than complete determination under the category of cause and effect—a category which the dialectic maintains to be quite insufficient, unless transcended by a higher one. He requires, among other things, the validity of the idea of final cause. And if this is brought in, it is difficult to see how delusions can

exist in a rational world. For a delusion involves a thwarted purpose. If a man makes a mistake, it means that he wishes to know the truth, and that he does not know it. Whether this is the case or not, with regard to simple perception of the facts before us, it cannot be denied that wherever there is a long chain of argument, to which the mind is voluntarily kept attentive, there must be a desire to know the truth. And if this desire is unsuccessful, the universe could not, in Hegel's sense, be completely rational.

This becomes more evident if we look at Hegel's definition of complete rationality, as we find it in the Absolute Idea. The essence of it is that reality is to be conscious of its own rationality. The idea is to be "Gegenstand und Objekt" to itself. If this is the case, it follows that the rationality of spirit as an existent object depends upon its being a faithful symbol of the rationality expressed in other manifestations of spirit. The delusion to which Hegel reduces all imperfection will of course prevent its being a faithful symbol of that rationality, and will therefore destroy the rationality itself. In so far as we do not see the perfection of the universe, we are not perfect ourselves. And as we are part of the universe, that too cannot be perfect. And yet its perfection appears to be a necessary consequence of Hegel's position.

VI.—DISCUSSIONS.

SURVIVAL OF THE FITTEST AND SENSATION-AREAS.

Mr. Spencer has contributed articles to the *Contemporary Review* (since reprinted by Williams & Norgate) in which he argues that the distribution of the accuracy of local discrimination on the skin is such that it could not result from "natural selection". The authority of Mr. Spencer is so great, and these articles have attracted so much attention, that it seems desirable to offer some criticism from the point of view of Experimental Psychology.

The discovery of Weber is described by Mr. Spencer, but he does not consider the large amount of experimental work which has since been published on the subject.[1] Otherwise he would not regard experiments he has made on the blind and on compositors as original, whereas such were published fifty years ago. Mr. Spencer found the distance between two points which could be discriminated by two blind boys to be one-fourteenth of an inch and by two compositors one-seventeenth of an inch. As a matter of fact a distance one-tenth as great can be discriminated after some practice by those who are neither blind nor compositors. Experiments such as Weber's or Mr. Spencer's are no longer a contribution to experimental psychology. At the same time the details of exact science do not affect Mr. Spencer's argument, as it is admitted by every one that the accuracy of local discrimination on the skin is increased by practice.

Mr. Spencer's argument is, however, to a certain extent based on the incorrect assumption made by him that increased fineness of discrimination in the cases considered depends on "development of nervous structure," "multiplication of fibres," &c. It rests on increased interest and attention, not on any change in the anatomy of the skin. Practice for a few minutes will double the accuracy of discrimination, and practice on one side of the body is carried over to the other. If anything be acquired by use and transmitted to posterity, it is accuracy of discrimination, not anatomical development of nerve-fibres and nerve-endings.

Mr. Spencer adopts Weber's view that the endings of nerve-fibres are spread mosaic-like over the skin, so that when an area supplied by one fibre is touched with two points only one point is felt. This view is quite untenable. According to it, when the areas on the fore-arm are about one inch across, we should expect to feel two points one inch apart as one touch, when they hap-

[1] By Czermak, Volkmann, Vierordt, Kottenkampf and Ullrich, Paulus, Riecker, Hartmann, Teuffel, Klug, Lichtenfels, Brown-Sequard, Suslowa, Alsberg, Funke, Fechner, G. E. Müller, Hall, Goldscheider, and others.

pened to fall on the same area, but when they crossed a boundary and fell on two different areas, they should be felt as two, even though the points might be close together. This, however, is not the case; the points must be equally distant whatever the anatomical arrangement of nerve-fibres. Further, while the touch of two points an inch apart may be fused into one sensation, the motion of a point over the skin for the tenth of an inch is distinguished and its direction known.

We have to do with a psychological fact—the accuracy with which sensations can be localised. Each point of the skin has a "local sign" depending doubtless on anatomical structure. On parts of the body where the structure is tolerably uniform over large areas, as on the back of the trunk, the "local signs" of points near together are much alike, and are easily confused. We do not distinguish any difference in touches even when separated by a considerable distance. On parts of the body, however, where the anatomical structure varies within narrow limits, points close together have different "local signs" and are readily distinguished. If the data given by Mr. Spencer are called to mind, it will be seen that the parts which are most mobile, as the tongue and fingers, have the smallest sensation-areas, whereas the parts which are least mobile, as the breast and back of the trunk, have the largest areas. The distance at which touches are fused depends on the structure and mobility of the parts, rather than on skill acquired by use.

Let us now consider the application of these facts to "natural selection". Mr. Spencer is willing to "admit that this high perceptive power possessed by the fore-finger end may have arisen by survival of the fittest," but he thinks the distribution of sensation-areas on other parts of the body, more especially the great sensitiveness of the tip of the tongue, cannot be thus explained. I think there is no peculiar difficulty in this case. It is possible that sensitiveness of the tip of the tongue may be less useful to man than sensitiveness of the finger-tips, but, considering the importance of mastication and speech, it is more useful than sensitiveness in any other part of the body. And Mr. Spencer entirely fails to notice the great importance of sensitiveness of the lips and tongue to the lower mammals. Long before the savage used the finger-tips to make "arrows or fish-hooks," the mammal used the lips and tongue as a special organ of touch. Its accuracy is very great—a horse will reject the smallest bit of gravel from its peck of oats—and its usefulness in the struggle for existence is surely greater than that of the finger-tips for man. If we compare the sensitiveness of the tongue of the lower mammals with that of their hoofs or paws, we need not wonder that in their descendants the tongue remains more sensitive than the finger-tips. Least of all should Mr. Spencer be surprised, who holds that useless organs are not likely to be eliminated by survival of the fittest, but may on the contrary be developed by use.

Nor is this all. As was stated above, the accuracy of localisation depends on the mobility of the part. For mastication and speech it is highly important for man to have the tongue mobile; and it is mobile to an extraordinary extent—far more so than the fingers. If the sensitiveness of the finger-tips may be developed and maintained by survival of the fittest, so without doubt may mobility of the tongue—whose beginnings are more remote than sensitiveness of the finger-tips. The great sensitiveness of the tongue is amply accounted for by its usefulness to man, its enormous importance to the lower mammals and the mobility of the organ.

While the distribution of sensation-areas on the skin seems to offer no peculiar difficulty to the theory of natural selection, we may welcome a discussion of the adequacy of this doctrine from one of the earliest and ablest advocates of the theory of evolution. I do not, indeed, agree with Mr. Spencer when he argues that variations will not survive, if their usefulness be but slight. A variation, even if of only infinitesimal usefulness, would become established, if it occur with sufficient frequency, and if it be stable —that is, if it tend to survive in the offspring. The theory of natural selection accounts for the survival of the fittest, but its inadequacy is in the circumstance that it does not attempt to account for the origin of the fittest. It is almost a truism to say the fittest will survive. What we need to know is why beneficial variations occur, tending toward more highly differentiated structure, and why these variations are hereditary.

Darwin tells us that variations are due to "chance," but explains that by chance he means causes which are unknown. This is merely a doctrine of nescience. It is, indeed, conceivable that variations are due to chance in the mathematical sense—that is, to the configuration of a molecular system which would result from the action of an indefinitely large number of small causes. But this would not explain the hereditary transmission of variations. It is true that, on the hypothesis of chance, this universe is as likely as any other. If "printer's pye" be set up at random it is as likely to compose Hamlet as any other one combination. But such a theory evidently makes dissolution of the cosmos imminent, and is unsatisfactory to the reason.

The Lamarckian theory—that structure is moulded by the forces of inanimate nature—is an attempt to explain variations; it would not, however, account for their hereditary transmission. Nor as a matter of fact do the forces of nature seem usually to favour the production of useful variations and the differentiation of structure. One of the most eminent of American Neo-Lamarckians recently told the writer that he believed the shape of fish to be due to the pressure of water on their bodies as they swim through it. Now I suppose the water would tend to make the fish more or less the shape of a tear or pear, and fish of sluggish habits are somewhat of this shape—which might result

from action of external pressure or from survival of the fittest. But fish which swim quickly have pointed noses. This is evidently an advantage, and shows how survival of the fittest is more potent than external pressure and the hereditary transmission of acquired structure. Living beings must adjust themselves to the external world, and their survival depends on accomplishing this. But the whole course of organic evolution seems a struggle against the forces of inanimate nature rather than as a result of these.

Whether changes acquired by the individual are hereditary, and if so to what extent, is a question of great interest for ethics no less than for biology. But Mr. Spencer's application of this doctrine to account for the origin of species simply begs the question. He assumes useful variations—whether of structure or habit is immaterial—without attempting to explain their origin. Very curiously, Mr. Spencer thinks that, if his argument from use be not valid, we "may as well avowedly return to the doctrine of special creations". The theory of the development of species seems entirely adequate as a description of what has taken place, but this need not be confused with the question as to whether survival of the fittest, or the heredity of acquired characteristics, acccunts for this development. Darwin's great work is adequate as a description of the "Survival of Species," but it fails to explain the "Origin of Species". It is, indeed, unlikely that science will explain why the world is as it is. The development of the animal series on this earth is the consequence of the structure of the starmist or of a force which moulds it. In either case we are beyond the range of science, and can only believe or hope that the universe tends toward a reasonable end.

J. McKeen Cattell.

May another word be permitted in reply to Mr. Bradley's second utterance on this subject, as possibly helping to clear up the dispute? My point of view was merely psychological in contending, as I did in my book, for the admission of immediate resemblance as an ultimate category of our perception, and of comparison as an ultimate function of our thought. The doctrine (made so plausible by familiar examples) that all resemblances must be analysable into identities concealed under non-identities, I showed could not be extended to every imaginable case. Mr. Bradley now says that immediate resemblance without identity seems to him 'sheer nonsense,' and that 'to deny the principle of Identity is to destroy the world,' and he challenges me again to 'state the principle' on which I 'object to identity'. To which challenge I can only reply that to Identity as such I have no objection in the world, and am astonished that any one should suspect me of such an irrational aversion. Every act of reasoning, every bit of analysis, proves the practical utility and the psychological necessity of the assumption that identical characters may be 'encapsulated' in different things. But I say that there must be *some* things whose resemblance is *not* based on such discernible and abstractable identity. Now, the identity on which Mr. Bradley himself thinks that the resemblance between all things must be based is no such abstractable identity. It is not separable, it is not even discernible, he says, from difference. It is only one aspect of an integral whole on which you may lay stress for a moment, but if you abstract it, or put it ideally in a box by itself, you make it self-inconsistent, or reduce it to nothing. But an 'identity' thus conceived is so different a thing from the stark self-sameness which 'identity' denotes in logic, that it seems unfortunate to describe it by the same name. The usual English name for that sort of identity between two things which you cannot abstract or distinguish from their difference is their 'resemblance'. So that Mr. Bradley now makes perfectly clear that in seeming to attack Prof. Stumpf's and my doctrine he is but reaffirming it under a changed name. When he insists that every resemblance must have for its inner ground an 'identity' thus complicatedly conceived, he is like a man who should say "every resemblance must have for its inner ground the resemblance itself" Why, such being the case, he should quarrel with me I cannot fathom: for this is exactly the opinion I have myself stood up for in all simple cases. Can it be the word 'simple' which has caused all the trouble?—for I believe that in my book I did heedlessly use the expression 'simple resemblance' in one place. But I never meant thereby to imply that the simplest phenomenon of resemblance might not seem, when contemplated long enough, fairly to curdle and swim with inner complexity, to embody inseparable oppositions, or whatever more of vital mystery any one may find. The simplest ideas, as I meant to use the word simple, begin to look the queerest when gazed at in this

way. But such gazing is a 'metaphysical' occupation, in which we shall all indulge, I am sure, with the greatest profit, when Mr. Bradley's new book comes out. *I* never meant to go beyond psychology; and on that relatively superficial plane I now confidently greet Mr. Bradley, no longer as the foe which by a mere verbal ambiguity he has seemed, but as a powerful and welcome ally.

WM. JAMES.

I should be glad to accept Prof. James' conclusion that the question between us is about a word. But to me both resemblance and identity, as he advocates them, are mere self-contradictory ideas. Resemblance without identity, and again "stark self-sameness" without difference, seem counterpart pieces of nonsense, nonsense unwarranted either in psychology or logic. And surely Prof. James does deny Identity in the one sense in which I admit it. But with regard to Resemblance I would once more solicit attention to certain points.

Is Prof. James prepared to maintain that where the point of sameness is not explicit it does not exist? Does he hold that in the end we have resemblance, though there is no point in which the things are alike and on which the resemblance is founded? Or, if not, will he explain why this point is not to be called one and the same? Does he teach that in a series you may have degrees of more and less which are more and less of nothing? Or, if not, will he tell us why this one something, of which there are degrees, is not to be called the same? And, when a series is perceived as one, is its unity to lie in resemblance without sameness? And, if so, may we be informed whether there is only one such resemblance or several? And, if there are several, where are we to hold that the unity lies? And, if there is but one such resemblance, will Prof. James say how the serial differences in resemblance remain themselves, so long as through all there may not be any point of sameness? This last question cannot be troublesome to one who has understood and applauded Prof. Stumpf's dialectical exploit. But if the objection is verbal and applies not to "same" and "sameness" but only to "identity" and "identical," may we have that stated?

It is easy to discredit such questions as idle conundrums asked in the interest of some obscure and foolish mysticism. It is easy to disregard them and to stand on inherited dogma. That is all so easy that in the present case I looked for something more interesting. But I leave it to the reader to judge whether these inquiries do not fall within psychology, and whether some answer to them should not be supplied by any satisfactory treatment of psychological principles. I am confident that Prof. James, if he could be induced to deal with these problems, would not fail to throw light on them. He would certainly find that our difference involved much more than the mere meaning of a word.

F. H. BRADLEY.

VII.—CRITICAL NOTICES.

La Psychologie des Idées-Forces. Par Alfred Fouillée. Paris: F. Alcan, 1893. 2 vols. Pp. xl., 359, 410.

By an idea-force M. Fouillée means a "process indivisibly sensory, emotional and appetitive". He conceives the mental life as consisting throughout in activity directed towards ends, with or without forethought as to the nature of these ends. In the case of psychical process final causes and efficient causes are coincident. All specific contents of consciousness, the whole variety of sensory and intellectual experiences, are specific modes of this all-pervading and persistent nisus in which our very existence as conscious beings consists. According as this nisus is thwarted or furthered by the modifications which it receives in the course of experience, these modifications are agreeably or disagreeably toned. Thus it necessarily tends to maintain and develop pleasing experiences and to get rid of those which are painful. The proposition that pain consists in thwarted striving and the proposition that we strive against pain are different ways of saying the same thing. "The force inherent in all states of consciousness has its ultimate ground in the inseparable union of . . . discernment which is the source of intelligence, and preference which is the source of will. . . . Discernment may be implicit when one term only is present to the mind so that there is no comparison. . . . There exists also an implicit preference, including no comparison. I experience a pain, and I immediately endeavour after its suppression, as is shown by my reactive effort. This requires no reflective comparison of ideas or possible alternatives. . . . There is an unreasoned but active preference in favour of pleasure, and there is at the same time discernment of my actual state."

Every idea or sensation is therefore, according to M. Fouillée, an endeavour thwarted or promoted. He admits that in the mature consciousness the conative and affective aspects of the triple process are sometimes comparatively inconspicuous. But they are never altogether absent. In attitudes of mind which appear most purely cognitive, there is always some kind and degree of impulse and interest, *e.g.*, the disposition to go on thinking about something whatever it may be and so avoid mental vacuity. But even this relative obscuration of the active and emotional consciousness is a comparatively late product of mental evolution. At the outset there is no severance between practical and theoretical interest. Cognition is, to begin with, immediately and entirely subservient to external action for the satisfaction of organic needs. In order to live an organism must

adapt itself to its environment or its environment to itself. In the beginning cognition was merely a means whereby this adaptation was made possible. The disposition to seek truth for its own sake is a subsequent growth. This principle of the priority of practice to theory is everywhere emphasised by M. Fouillée. He uses it as a key to many of the leading problems of psychology. Indeed, it seems to us that he sometimes pushes this line of explanation too far. It sometimes leads him to commit the psychologist's fallacy of transferring his own point of view to the consciousness whose development he is tracing. Because practical endeavour is of supreme importance at the outset of psychological development, M. Fouillée is apt to figure the undeveloped consciousness as concerning itself with its own impulses and its own pleasure and pain, instead of with their objects and occasions.

To complete this account of the theory of idea-forces, we must consider it also on the psychophysical side. M. Fouillée maintains in the most thorough and uncompromising fashion the correlation of mental change and brain change. The force of ideas whereby they determine changes in the organism, and so indirectly in the environment, does not consist in a mechanical action which they exercise on the body. It rather depends on the necessary law which unites each state of consciousness with a corresponding mode of motion within the brain. It is this correlated neural disturbance which gives rise, according to physical laws, to subsequent physical changes. "We do not by any means believe that the idea of firing a pistol, for example, acts on the brain as the finger acts on the trigger. Mechanical effects in space have always, as such other, mechanical effects in space for their antecedents. The idea never intervenes physically so as to make a breach of continuity in the universal mechanism. The motion is already present while sensation and thought are coming into being, and this motion cannot cease; it passes necessarily from one cell to another. If it does not expend itself in exciting other modes of consciousness, it expends itself in setting the muscles in motion. Or, to speak more correctly, these two effects are always simultaneous, but in varying proportions, and this variation in their relative degree determines the distinction between states which are *a potiori* called ideational and those which are *a potiori* called volitional." But M. Fouillée strenuously combats the view that because mechanical effects are always as such traceable to mechanical condition, the psychical side of the total psycho-physical process must be regarded a mere epiphenomenon. The conceptions of action, effort, tendency, enforcement, and so forth, are, according to him, ultimately derived from the experience of that appetitive activity which constitutes the existence of conscious beings. If we are to use the term "epiphenomenon" there is far better reason for applying it to physical than to conscious process. Not only the brain but the whole of the material world may be regarded as relatively

phenomenal, by comparison with psychical activity—as but the outward and visible sign of an inward psychical reality.

The general point of view, which we have sketched in outline, is applied by M. Fouillée in a thorough-going manner to the whole round of psychological problems. Everywhere the leading idea-force which guides his investigations is the primacy of practical experience as compared with theoretical, and the omnipresence of appetitive activity. The order of treatment is in the main synthetic. The first volume is devoted chiefly to those primitive stages of the mental life in which it is immediately conditioned by sense impressions, and in which its activity consists in muscular reactions in more or less immediate response to these impressions. M. Fouillée endeavours to show that appetitive activity and the movements correlated with it are essentially implicated: (1) in sensation; (2) in sensuous pleasure and pain; (3) in the primitive reactions which constitute the germs of volition. Under the first head, he inquires why among the innumerable physical agencies which environ us, we are sensitive to certain selected groups to the exclusion of the rest. Accepting the biological answer that the selection of special modes of sentience depends on the comparative advantage which the individual derives from them in the struggle for existence, he formulates this explanation from the psychological point of view. Sensation is originally a modification of the appetitive activity which constitutes conscious life, either in the way of advancement or obstruction—pleasure or pain. The evolution of sensations—their gradual differentiation—is determined by felt need, by what Schopenhauer called the "will to live". It is the relation of sensations to agreeable or disagreeable feeling—to the satisfaction or thwarting of felt needs—and to the corresponding movements of advance or withdrawal, which has determined the selection from all possible modes of sentience of these most advantageous to the individual. As regards the manner in which differences of sensory quality originate, M. Fouillée fully accepts Ward's theory of a presentation-continuum gradually differentiated. He rejects the theory which would reduce all specific qualities to various combinations of the same elementary unit. On the other hand, he denies that the unique character of a sensory quality and its apparent simplicity are satisfactory evidence that it contains no complexity. "Our most specific sensations of taste are precisely those which are complicated with sensations of touch and smell." What is said on this question is interesting; but the difficulty of conceiving sensory differences, which no effort of attention can distinguish, is not removed. Ward's criticism of the doctrine of the relativity of sensations is reproduced with a lucidity which adds to its force. Finally, M. Fouillée insists on the constant and necessary connexion of sensation and motor reaction.

The physiological and psychological causes of pleasure and pain

are next examined. Pleasure is made to depend on efficient psychophysical activity, and pain on the existence of obstructions which render it inefficient and tend to suppress or destroy it. The special conditions of pleasure-pain, such as the relation of wear to repair in nerve-tissue, are brought under this general principle. It is denied that feeling-tone is a function merely of the intensity of sensations as distinguished from their quality. Cogent arguments are brought against the pessimistic theory that pleasure consists in release from pain. Of course this theory is utterly irreconcilable with the position that we are essentially active, and that activity as such is pleasurable, in so far as it is not defeated. The same general thesis is skilfully applied to the refutation of the theory that pain is the sole or the principal factor in mental evolution. At the same time the thesis itself is corroborated in the course of the argument by reference to the facts which support it. The same general point of view is emphasised and developed in opposition to the Herbartian attempt to find the sole conditions of pleasure-pain in the interaction of presentations. M. Fouillée scarcely does justice to the Herbartian doctrine. Herbart reduced both feeling and presentation to modes of the self-preservation of the soul. *Mutatis mutandis*, this self-preserving tendency corresponds to M. Fouillée's appetitive activity. Next arises the vexed question whether pleasure as such or pain as such varies in quality as well as in intensity. "According to us," says M. Fouillée, "there underlies all pleasures, however much they may differ, a kind of fundamental pleasure, which is the pleasure of being alive . . .; but it does not follow that the existence of this common element, which enables us to compare diverse pleasures by referring them to the root-pleasure of being active, excludes all differences of quality between pleasures." The question is largely one of definition and division. But those who, like Lehmann and Ward, taking the experience of being pleased in its abstract purity, exclude from it all qualitative distinctions as belonging rather to the cognitive consciousness, appear to us to divide more skilfully—to carve where the joints are.

The primitive stages of volition are treated in a very interesting way. M. Fouillée, in agreement with Spencer, regards nascent movement as essential to desire in its primitive form. What Spencer has failed to bring out clearly enough is that the nascent movement has for its counterpart in consciousness "a certain tension, a certain psychical endeavour, the consciousness of an activity which demands exercise, which tends to work itself out and attain completion. . . . Indefinable as the idea of activity may be in virtue of its very simplicity, it is inherent in consciousness. It is implied in the idea of passivity. A felt modification is a felt activity." Desire is the felt tendency of an idea to actualise itself. But though the idea is potent to produce movement, it is impotent to produce sensations directly. It thus gives

rise simultaneously (1) to a lively sense of power to actualise movements, (2) a lively sense of impotence to actualise sensations : the result is sense of power arrested and checked, with consequent effort and pain. The idea thus tends, by means of movement, to become sensation, to acquire that supreme intensity which attaches to actuality. The first germs of volition consist, according to M. Fouillée, in indefinite appetitive movements preceding definite appetitive movements. In tracing the mode in which this indefinite mobility becomes differentiated and confined to definite channels he follows Ward.

Passing over the interesting discussion of the emotions and of their expression, we come to bk. iii., which treats of memory and its relation to conation and movement. M. Fouillée first discusses the mechanical basis of memory. He begins by laying down two very dubious propositions : (1) that every idea includes an image which is a faint revival of sensation ; (2) that the revival is localised in the same parts of the brain as the original impression. He then proceeds to discuss the competing hypotheses which respectively seek the physiological explanation of retentiveness in the persistence of molecular vibration, of structural modifications, and of functional dispositions. In regard to the problem of the survival of ideas, he claims to be more of a " mécaniste " than the most convinced advocates of mechanism. At the same time he endeavours to show that mechanical explanations represent only one side of the case, and that by no means the most essential. His own interest is mainly in the " mental aspect " of the process. " When we pass to the psychological point of view, we can no longer say with Maudsley that the face disfigured by small-pox remembers the virus." Here, as everywhere, M. Fouillée emphasises the importance of appetitive activity. He is willing to admit that in the case of after-sensations, recurrent sensations, and hallucinations we are relatively passive. But when we pass from these to consider the retention of the primary memory image, we find that our own activity plays a prominent and essential part in the process. " The mnemonic image depends predominantly on the attention given to it. . . . If this attention has a sufficient intensity, the image of even a faint impression may be renewed and retained for a long time. Apart from attention, the image even of a faint impression soon disappears. The mnemonic image is not therefore the passive residuum of the impression. It is a combination of the residua of the impression with the residua of the cerebral and mental reaction." The treatment of the laws of association is on similar lines. James' account of the brain process involved is reproduced with full approval. But the correlated mental aspect is also brought out, though not perhaps so fully as we might expect. Stress is laid on the controlling influence of the general direction of mental activity and general emotional state on the course taken by the ideal train. The association of ideas is

said to have for its presupposition the association by analogy and by contrast of emotional states and of active tendencies. Here there appears to be a clear abuse of language. A dominant impulse such as hate may, as M. Fouillée says, awaken secondary impulses having a similar direction, such as anger, resentment, and desire for vengeance. But it does not do so by association. Still less is this the case when the transition from one emotional and active disposition to another depends on contrast. M. Fouillée further refers to the part played by intellectual activity in the original synthesis on which subsequent associative reproduction depends. He scarcely seems to us to attach enough importance to this point. Reference might have been made to the extremely valuable observations of hypnotised subjects and hysterical patients recorded by Janet, which clearly show that the power of forming new ideal combination is strictly limited by the power of attending.

Reproduction, as M. Fouillée clearly shows, is not identical with recognition: it is not even always coincident with it. M. Fouillée's account of recognition is somewhat elaborate and difficult to grasp. But the essence of it may be stated as follows. At the outset of mental development, the feeling of recognition was implicit in the satisfaction of appetite; the infant at the breast with each successive draught of milk "feels the coincidence of the new sensation with the image of the past sensation: his imagination fills itself, so to speak, in the same manner as his mouth; we may say that he thus *recognises* the pleasure already felt and the milk already imbibed. In more advanced stages of development recognition . . . extends to more indifferent objects, but it always retains this active element of an energy easily expended, which *comes* and *goes* from one term to another without check or shock of collision." It must be noted that a necessary condition of the perception of identity is the intervening difference, the partial cessation or fading of the previous sensation. Non-recognition or the experience of difference is implicit in disappointed appetition, as recognition is implicit in appetition fulfilled. Thus, if for any reason while the child is sucking the milk fails to come, he feels the discrepancy between the fading after-sensation, or "image," which he strives to maintain, and the new experience. M. Fouillée is aware that what is here described is a mere experience of resemblance or difference, and not an idea or perception. But he maintains that when this merely felt resemblance or difference is sufficiently "reinforced" by repetition and concentration, so that it acquires a certain salience or prominence within the total experiences in which it is embedded, it is *eo ipso* transformed into a perception or idea of difference or resemblance. At this point we fail to follow him. He assigns correctly enough the conditions under which the mere experience passes into an idea. But he refuses to see that the advent of the idea is the advent of an entirely

new and irreducible mode of being conscious. This new mode of consciousness consists in the objective reference whereby, as Mr. Bradley would say, part of the content of immediate experience becomes "referred away from itself and made adjectival to something else". The object of an idea, whether it be mental or physical, a quality, a thing, or a relation, is never wholly identical with any immediate experience of the subject who thinks of the object at the moment in which he thinks of it. Immediate experience is coincident with the momentary consciousness, but the essence of thought is reference beyond the momentary consciousness. I may think of a momentary modification of my consciousness as an occurrence in my mental history, an incident in my experience. But neither my experience as a whole, nor the position and relations of any part within that whole, can be given as the content of momentary consciousness. Again, I may think of the quality of an immediate experience abstracting from the fact that it is experienced. In this case also I am obviously not thinking merely of the momentary appearance at the moment in which it appears. The ideal content is regarded as something which remains identical through the fleeting moments of its appearance. We have dwelt on this point because it constitutes our chief disagreement with M. Fouillée's treatment of the process of mental development. We cordially admit that relations may be merely felt just as sensory qualities may; though we should say that, as far as regards the feeling consciousness in distinction from the consciousness of the psychologist, the application of the terms *relation* and *quality* is proleptic. We agree also that perception and ideas arise at the outset in connexion with the practical experiences described by M. Fouillée. But we insist that the transition from mere feeling to idea involves a radically new mode of being conscious. On the other hand, we are at one with M. Fouillée in his opposition to the Platonisers, who require the intervention of a "pure spirit" for the perception of relations. What we demand is the recognition of thought as a distinct mental function, having its distinctive cerebral counterpart in the action, let us say, of a "higher level centre". M. Fouillée brings his first volume to a close by a detailed and successful attempt to show that the higher forms of intellectual process, generalisation, judgment and reasoning, are also forms of appetition. General notions are general tendencies to action. To formulate a new idea in consciousness is to acquire a new mode and direction of activity. We have not space to dwell at any length on the contents of the second volume. It treats mainly of the origin and influence of the "principal idea-forces," and of the nature and development of the will. Under the first head are discussed the genesis of the ideas of the external world, of space, of the self, and of time, the origin and operation of the principles of identity and of sufficient reason, and so forth. The central principle of the explanation of the growth of the idea of an ex-

ternal world is the antithesis between our own activity and passivity. Fouillée's treatment of this topic, as of all the others, is luminous and instructive. In dealing with the space-question, he follows in the main in the footsteps of Ward and James. His most distinctive contribution to the subject lies in the way in which he brings out the fundamental importance of the extensity of organic sensations. The most noteworthy and valuable feature in the chapter on the self is the stress which is laid on the importance of the idea of self, when once it has become distinctly formulated in consciousness, as a factor in the subsequent evolution of the mental life.

The account of the time-perception is especially good. M. Fouillée's point of departure is the thesis that process and transition in consciousness, just because it takes place in consciousness, is itself a mode of consciousness. Of course he does not mean that changing experience involves the idea of change; but only that it involves the feeling of time-transience, which is the basis of the idea. A man falling from a balloon may have the distinctive feeling of falling without having the corresponding idea of his own motion. Not only is the process of experience, *eo ipso*, experienced process, but within this primitive experience, present, past, and future are already differentiated for the merely feeling consciousness. Here, as elsewhere, the clue is found in the conception of appetitive activity. The distinctive characteristic of the present is a sense of actuality, a felt adequacy of consciousness to its object, which may be negatively defined as the absence of the sense of deficiency. Attention is endeavour towards the maximum completeness, distinctness, and vividness of presentation. So far as this endeavour meets fulfilment, so far as it passes from felt striving and felt shortcoming into felt fruition, we have the experience of the present, which coincides with that of the actual. What in immediate experience corresponds to the idea of the future is the feeling of deficiency which attention constantly tends to remove. In the case of the past there is also a felt shortcoming, but its relation to attention is different. Our appetitive activity is turned towards the future and from the past. Hence in the experience of pastness the tendency to make good the felt shortcoming is absent. "An animal strives to detain its prey which is on the point of escaping from its clutches: this is the future. It lets the prey slip and no longer holds it: this is the past. It seizes it again and devours it: this is the present." The apperception of these immediate experiences in their distinction and interconnexion yields the germinal idea of temporal succession; and, according to M. Fouillée, the work of apperception is to "distinguish and separate details previously lost or merged in a mass, owing to their insufficient intensity". We must here again desiderate a recognition of thought as objective reference, irreducible to mere intensification. It would be interesting to follow M. Fouillée in his further account of the development of

the idea of time. But limits of space forbid more than a brief indication of his general position.

The principles of identity and of sufficient reason are traced to their psychological beginning in practical activity. We find difficulty in following the account of the principle of identity. Fouillée appears to derive it, in the first instance, from reflexion on our own volitional activity. "The essence of will is to posit itself in face of other things which oppose it, and in positing itself to affirm itself. . . . Contradiction is excluded from volition. What I will, I will—*i.e.*, being and well-being." We are by no means sure that we understand. But perhaps it is relevant to object, that if we could identify A with Not-A in thought, there would be no difficulty in willing them both in the same act.

The analysis of voluntary action and the account of the growth of will are excellent and very full. Two chapters are devoted to a vindication of the existence of Will. In view of the theorising of such "presentationists" as Münsterberg, these chapters are by no means superfluous. In defining the distinctive nature of voluntary action, M. Fouillée rejects as inadequate the doctrines which explain the will (*a*) as the tendency of an image to realise itself, or (*b*) as determination by judgments and ideas. "The will is not determination by any judgment; it is determination by a judgment which pronounces that the realisation on an end depends on our own causality. It is not merely the tendency of any idea to its own realisation. It is the *tendency of the idea of* personal activity to its own realisation." The treatment of the freedom of the will will be in the main familiar to readers of M. Fouillée's previous writings. Especial stress is laid on the progressive realisation of the idea of freedom.[1] The book concludes with a discussion of the alterations and transformations of consciousness and of will, which contain some interesting matter, chiefly relating to the hypnotic state.

We find ourselves in such cordial agreement with M. Fouillée's general point of view, and with his opinion on many disputed questions, that we are perhaps scarcely in a position to pronounce an impartial judgment on the value of his work. But we can at least say with assurance that all psychologists ought to read it, and that those who do so will be fully repaid. It is full of fresh and interesting matter from beginning to end.

EDITOR.

[1] For a full analysis of these chapters see notice of the numbers of the *Revue Philosophique* in which they first appeared. MIND, N.S., No. 5, pp. 137-39.

Philosophy and Political Economy in some of their Historical Relations. By James Bonar, M.A., LL.D. (The Library of Philosophy, edited by J. H. Muirhead, M.A.) London: Swan Sonnenschein & Co., 1893. Pp. xvi., 410.

A history of opinion is apt to prove dull reading. The works of which it treats may be divided into two classes: those which the reader has already studied, and those which he has not. An abridgment of the former class often presents no new idea; of the latter class, no distinct idea.

Mr. Bonar's work is free from these defects. He imparts novelty to old doctrines by tracing unexpected affiliations between them. In the most familiar regions he finds new paths. The following are examples of the species of *recherché* reference to which we allude. Mr. Bonar produces evidence that Bentham had adopted, instead of the formula "greatest happiness of the greatest number," the simpler and more intelligible "greatest happiness". It appears that Perronet Thomson claims the honour of having converted Bentham to the change (Bonar, p. 227). Moreover, there is adduced new evidence in favour of the genuineness of the *Deontology* in which the simpler formula is given (*ibid.*). It may not be generally known that the most important corollary of the greatest happiness principle, equality, had been anticipated by Hume: "No one can doubt but such an equality is most suitable to human nature and diminishes much less from the happiness of the rich than it adds to that of the poor". We derive the quotation from Mr. Bonar (p. 117). It will surprise many readers to learn that Bentham was an advocate of female suffrage. Mr. Bonar refers to two passages in the *Reform Catechism*, which J. S. Mill may seem to have overlooked. Mr. Bonar also corrects Mill for attributing to his father the observation that man's action on natural objects is confined to *moving* them (Bonar, p. 249). The reflexion is traceable to Bacon. Mr. Bonar's references to the ancient classics are particularly instructive. Thus he cites from Xenophon a striking passage relating to division of labour, which, though it has been referred to by one or two previous writers, is probably new to most economists:—

> In small cities the man that makes beds may make doors, ploughs and tables, and perhaps houses. . . . But in great cities, because there is a large demand for each article, a single craft is enough for a living, or sometimes indeed no more than a single branch of a craft;—we find one man making men's boots only; and another, women's only; and another cobbling or cutting out merely. . . . The smaller the work the greater the skill in the craftsman (Bonar, p. 31).

Even where the honour of a literary discovery cannot be claimed for Mr. Bonar, he has still the merit of imparting freshness to familiar works by his description of them. His chapter on J. S. Mill may be ranked with F. Lange's *Ansichten* among

the few commentaries which facilitate the comprehension of the classical *Principles of Political Economy*. We venture to regard Mr. Bonar's account of Hume's Utilitarian Ethics (p. 108) as conveying a much more accurate impression than one who is regarded as a high authority on the subject, T. H. Green, has done when he complains that Hume left "nothing of that which is lovely or of good report to the saint or statesman but what they share with the dandy or diner-out"; and speaks of "the avowed insufficiency of [his] moral theory to explain any motive beyond that of respectability" (Introduction to the moral part of Hume's *Treatise*, § 48 and § 54). The sentiment of benevolence, the pleasures of sympathy, which form the mainspring of the Humian Ethics, are much more fairly described by Mr. Bonar.

In following Mr. Bonar's interesting comments the reader will do well to refer concurrently to the original writers. Here, however, a little difficulty occurs—Mr. Bonar generally refers to an early edition. But it is not every one who has the first edition of the *Wealth of Nations*, or even the sixth edition, within reach. Green and Grose's edition of Hume is in more hands than the first edition of the *Treatise* and the collection of Essays published in 1768, to which Mr. Bonar usually refers. In some cases, perhaps, this difficulty might be overcome by establishing an equation between the corresponding pages of different editions, as thus: the nth page in the familiar edition corresponds in the classical edition to a number which is a certain function of n.

Having tested Mr. Bonar's accuracy of interpretation in the case of authors with whom we are acquainted, we are justified in inferring a similar fidelity with respect to those whom we have not seen. In the latter case we have direct experience of a quality almost as necessary to the literary historian as fidelity, namely, the power of vividly presenting the views of others, in their absence so to speak, when they cannot speak for themselves —to readers who are not conversant with the originals. The writer's double faculty of faithful and intelligible interpretation is likely to be of great service to the economic specialist who has not leisure or inclination to peruse the works of all the philosophers who have touched on Political Economy. In this respect Mr. Bonar's chapters dealing with the German philosophers will be particularly useful to the English economist. Instruction is to be derived from Fichte's clear, though absurd, conception of a Utopia "closed" against foreign commerce; and from his measure of value, namely, the time during which a thing would enable us to live.

> The value of oysters, for example, is estimated by the time a man could live on a certain quantity of oysters as compared with a similar quantity of bread. . . . A pound of meat is of more value than a pound of bread, because it gives more nourishment and enables a man to live by it for a longer time.

We have derived less benefit from the exposition of Hegel's views. Still the fact that there is little here for the hard-headed economist to fasten on is itself a negative fact of great importance. It is expedient that one should suffer; and Mr. Bonar's laborious analysis of the *Rechtsphilosophie* will have spared much disappointing trouble to many economic students.

We should do injustice to Mr. Bonar's work if we treated it as merely historical. It contains also original contributions to speculation on Philosophy and Political Economy. Of these, the most noteworthy, as it appears to us, are those which relate to the theory of Natural Rights and to the principle of Utility.

Mr. Bonar devotes a chapter to "Natural Rights and Law of Nature," and leads up to the subject in a series of chapters. He asks the question "if there are not certain rights which are essential to the life of men, as reasonable beings, in whatever society they are, and which may therefore be called in a special sense natural or at least fundamental—such as the 'right to live,' the 'right to work' and the 'right to have leisure'". He appears strongly inclined to answer this question in the affirmative. But he admits: "When our forefathers talked of natural rights there was a truth in the conception conveyed by their words, but it is a truth perhaps more safely and clearly expressed now-a-days in some other way". One way, it might be suggested, is—without erecting natural right as a standard distinct from utility—to attribute an eminent degree of utility to the concession of the three claims which Mr. Bonar has so well stated.

But we are not countenanced by Mr. Bonar in the use of Utilitarian phraseology. On the contrary, he makes a vigorous attack on Utilitarianism, with which the adherents of that doctrine will have to reckon. He disputes the importance of the principle of utility, as applied both to Political Economy and Morals. In his view both applications of the principle involve certain propositions which are erroneous (p. 218 *et seq.*).

(1) "The two bodies of doctrine seemed to agree in being directly related to palpable and tangible, or (to put it more bluntly) mundane and materialistic aims." (2) "To both the body politic is a *fictitious body*, composed of individual persons who are considered as constituting *as it were* its members" [quoted from Bentham]. (3) Both lay "emphasis on the deliberate calculation of means to ends, as opposed to action from habit or instinct". (4) "The notion of an indefinite sum of satisfactions"—that "the desires of human beings are unlimited" (p. 222)—"is common to both". (5) "The calculus of pleasures and pains which is so striking a feature of Bentham's Utilitarianism has been turned to account in the exposition of the economical notion of final utility in relation to value." (6) "Finally (especially by recent writers of the School of Final Utility) the absolutely individual character of economic judgments is asserted in the same way as the absolutely individual character of the hedonistic by the older Utilitarians. The individual is not only the best but the only judge of his own interests as of his own pleasures."

Confining ourselves at first to the purely economic issue, we should maintain that some of these propositions are not held by economists (of the Final Utility School), and that others are very tenable. To fix the ideas, let us take any concrete example. The first that occurs to us is one suggested by the holiday season—expenditure on a tour in Switzerland. Suppose a person to have set apart a certain sum for such a purpose. In shaping his plans he may include in the programme some first-rate ascents. But, informed by past experience, he will take account of the high fees required by guides, and of the fact that the second or third ascent of the season is apt not to be attended with the same sense of novelty and exhilaration as the first. Unless our holiday-maker has the peculiar temperament of the professional Alpinist, an equilibrium will soon be established between the pride and pleasure of ascents on the one hand and the expense and perhaps fatigue on the other. He will not spend all his *viaticum* on the ascent of *aiguilles*, but will apply a portion to less arduous, perhaps more intellectual, modes of amusement.

To any such case the conceptions of the mathematical economist appear more appropriate than Mr. Bonar's philosophy. Mr. Bonar says (with reference to his fifth proposition, above enumerated) :—

> All that mathematical economics needs to assume is that a material quantity of goods will be in a certain proportion to a greater or less strength of motive; whether the motive be taken as pleasure, or not, is not essential.

No; we submit mathematical economics needs to assume, and is justified in assuming, a psychical quantity or sum which is capable of being maximised by the adjustment of external means. The analogy between physical and economic equilibrium, as each a position of maximum, is lost sight of by Mr. Bonar.

If we go on to consider some of the other objections, with reference to the particular case which has been imagined, we shall be at a loss to discover their pertinence. Is it, or need it be, assumed by economists that "the individual is the best judge of his own interest"? (above, prop. 6). Our pleasure-hunter may have made a mistake in the number of his ascents. If he had done one more, he might have found a gold mine; if he had done one less, he might have escaped an accident. But how do these possibilities affect the appropriateness of the general conception which we have indicated?

Nor in such a case as we have supposed does it seem very pertinent to insist (prop. 4) that "the desires of human beings are unlimited". To say that they are limited by the sacrifice incident to their gratification would not be incorrect. Mr. Bonar himself, referring to the proposition in question, contends that "it is not true" "of any individual man" that "there is no end to the variety of goods that will be desired" (p. 222). But *quis negavit?*

In like manner, with respect to the remaining propositions we should undertake to show that they were either tenable or not held by economists. And if we extend our observation to the opposite side of the counter, so to speak, and consider the motives by which the other party to the transaction, our traveller's guide, is actuated—whether in embarking on his profession, or engaging in any particular task—we shall be confirmed in our conviction that the conceptions prevalent among the mathematical economists are appropriate to the process by which economic equilibrium is reached and price determined.

Considering next the objections as directed against the principle of utility in Ethics, we may ask first: Is it true that Utilitarianism is "directly related to palpable and tangible . . . and materialistic aims"? Might not Napoleon have been a pure egoist, and yet have indulged

> La procellosa e trepida
> Gioia d'un gran disegno?

And even admitting that there may be some connexion, in fact though not in logic, between egoism and gross desires, can this be even plausibly asserted with respect to the more genial form of Utilitarianism which takes the happiness of all sentients as its end? It may be alleged, indeed, that the remark in question occurring in the chapter on Bentham is directed only against him and his primitive form of Utilitarianism. In that case the contention may be historically just; but it is of merely antiquarian interest to a generation of Utilitarians who have been bred upon the *Methods of Ethics*.

The objection that the aims of the Utilitarian are "palpable" and "materialistic" is itself at any rate tangible. But with respect to other objections there is some difficulty in seeing where the difficulty is. This remark is specially applicable to certain arguments which recall Green's objections against Utilitarianism. Of such are the following:—

> Nor does it make matters clearer to suppose that the motive is always the greatest ultimate, and not the greatest immediate amount of pleasure. The ultimate sum, so long as still in the future, is not a pleasure but only the idea or anticipation of one; moreover, if the wants of man are really infinite, it is an idea that can never be realised (p. 226). . . . If the end be a future sum of pleasures, there is in that a general notion of the permanent possibility of satisfaction, for a being that is thereby supposed capable of something beyond mere pleasures and pains, for in a mere feeling there is nothing permanent and nothing general (p. 227).

We venture to think that these speculative difficulties disappear when we deal with concrete cases occurring in practice, such as that which we have put above. A person intending to expend money on a tour to the greatest advantage either for himself or his party need not trouble himself in the least about

the permanent element of feeling. These metaphysical difficulties about the operation of motives concern the traveller no more than the Eleatic ἀπόριαι about the possibility of motion concern his guide. This will be admitted with respect to a particular tour. Is it not also admissible with respect to the arrangement of one's course of life?

Mr. Bonar's own common-sense seems to revolt against Green's teaching when he allows that "the idea of a maximum of happiness seems quite an intelligible one, whatever else we may think of it" (p. 225, *note*). Perhaps the further pursuit of the matter-of-fact study in which he has already won high distinction, the English School of Political Economy, may dispel his metaphysical scruples. Meantime, the fact that so solid an intellect refuses to accept the principle of Utility, either in Political Economy or Moral Philosophy, is certainly calculated to give pause to the candid Utilitarian.

F. Y. EDGEWORTH.

Sociologia Criminale. Terza Editione. ENRICO FERRI, Professore di Diritto penale nell'Universita di Pisa. Torino: Fratelli Bocca. Pp. 848.

This important volume is intended to serve as an introduction to the biological and sociological study of criminality, and we cordially congratulate Prof. Ferri on the admirable manner in which his book fulfils the purpose he has in view. The need for the study of criminal phenomena on methodical lines and in accordance with experimental methods has arisen in consequence of the failure of the theories of Beccaria and Howard. These theories, as Prof. Ferri tells us, were started with the object of diminishing the severity of sentences and of alleviating the lot of convicted offenders. In the course of the present century this object has been accomplished: prison administration has been transformed in every civilised community, and the ancient ferocity of the penal law has almost entirely disappeared. In other words, penal justice has been brought more into harmony with the ordinary sentiments of humanity. In so far as Howard and Beccaria were aiming at this object, their labours and the labours of their disciples have been crowned with success; but in so far as they were aiming not merely at diminishing punishment but at diminishing crime it must be confessed that their efforts have signally failed. To diminish punishment is one thing, to diminish crime is another. The first is easy, and is achieved by the simple expedient of mitigating sentences and prison treatment, but the second, the diminution of crime, is a task of the most extreme complexity and can only be accomplished after an accurate survey of the conditions which produce the delinquent. It is the function of criminal sociology to inquire into these conditions and to base the principles of penal philosophy upon the results of this examination.

According to Prof. Ferri the prevailing school of penal philosophy proceeds upon the theory that the criminal is gifted with the same ideas and feelings as other men; that the chief effect of punishment is to prevent the increase of crime; that man possesses free will and is morally responsible for his conduct. In opposition to these principles Prof. Ferri contends in the first place that the criminal in consequence of organic and psychic anomalies either inherited or acquired is a special variety of the human race. In the second place he contends that crimes originate, increase, diminish and disappear as a result of causes which have nothing to do with the punishments laid down in penal codes and applied by judges. And in the third place he maintains that the doctrine of free will is a subjective illusion.

In the first chapter of his book Prof. Ferri proceeds to develop and defend the thesis that the criminal is abnormally constituted both in body and mind. The skulls of thieves and assassins, the two most typical classes of criminals, exhibit a higher percentage of atavistic and pathological anomalies than the skulls of ordinary men. An examination of the criminal brain also shows that there is an exceptional frequency of pathological conditions, as well as decided signs of morphological and histological inferiority. In physiognomy the criminal also differs considerably from the average man. Experiments with the sphygmograph show that he is less sensitive to pain than persons of the same social class. Putting all these facts together the conclusion is arrived at that the criminal in bodily constitution is an abnormal product. But there is an intimate co-relation between body and mind, and an examination of the mental condition of the criminal population suffices to show that a very large proportion of the criminal classes is mentally as well as physically anomalous. The most striking of these anomalies is moral insensibility. This state of moral insensibility exhibits itself in an absence of repugnance to the idea of crime or to the commission of crime, and an absence of remorse after the perpetration of the criminal act. "Apart from the moral sense which," says Prof. Ferri, "is not a special sentiment but an expression of the whole moral constitution of the individual in the same way as the temperament is an expression of his physiological constitution, the remaining egotistic and even altruistic sentiments are not wanting among the majority of criminals. The existence of this fact is the cause of many illusions among superficial observers of criminal character." But inasmuch as the sentiments which do exist among criminals are not based upon the moral sense, they are either incitements to crime or are powerless to prevent it. The intellectual inferiority of the criminal shows itself most conspicuously in a want of foresight, which, however, often exists in combination with a considerable amount of superficial sharpness and cunning. In volitional characteristics the criminal resembles the child and the savage. He possesses no power over his desires, no power of combating a

vicious environment, he is a creature of impulse devoid of mental equilibrium. In Prof. Ferri's view criminal psychology is much more important than criminal physiology, and has a much more direct influence in shaping the principles of penal philosophy.

The conclusions at which Prof. Ferri has arrived with respect to the psycho-physical constitution of the criminal classes have been disputed on a variety of grounds; therefore, after setting forth these conclusions he proceeds with much polemical ability to meet the criticisms and objections of his opponents. The first of these criticisms is directed against his method of investigation, the second is directed against the scientific presuppositions on which his method is based, the third criticism is founded on the mutations which have taken place in society as to what constitutes a crime, while other objections take the form of pointing out that investigators of the criminal type often contradict one another, and that the characteristics supposed to belong to criminals are frequently found among members of the non-criminal population. All these criticisms and objections are examined and dealt with in detail: they all assume that, according to Prof. Ferri, the criminal is a product of biological conditions, and biological conditions alone. Prof. Ferri emphatically protests that his ideas on this point are misrepresented by his critics. He does not hold that the criminal is a product of biological conditions only: he holds that the criminal is a product of cosmical, biological and social conditions acting in combination, but in each particular instance with different degrees of force. This is Prof. Ferri's fundamental position as to the origin of crime, and he contends that the criticisms of his opponents are all more or less valueless because they will persist in arguing as if he attributed a purely biological basis to criminal phenomena.

It is customary to classify the criminal population into groups corresponding with the nature of the crimes which they commit, and this method of classification undoubtedly has its uses. But from a sociological point of view, that is to say, from the point of view of social therapeutics, it is much more philosophical to classify the criminal population in accordance with the conditions which produce crime. It has already been seen that these conditions are three in number, biological, cosmical and social. A classification of criminals to accord with these conditions would lead us to divide them into two fundamental groups, the first group consisting of criminals by psycho-physical organisation, and the second group consisting of criminals by environment. In terser language the first group consists of criminals by nature, the second of criminals by nurture. In the first group it is congenital organisation which plays the most conspicuous part, in the second it is external circumstances, although, of course, the criminal disposition is an organic product arising out of the interaction of both these factors. Prof. Ferri discusses the various ways in which criminals have been classified at considerable

length, and finally comes to the conclusion that they may be divided into five fundamental categories: insane criminals, born criminals, habitual criminals, occasional criminals, and criminals by passion. It is perfectly true that this method of classification has been widely adopted, but it seems to me that it hardly corresponds with the dominant conditions which produce crime, although Prof. Ferri professes to base his classification on those conditions. Prof. Ferri's insane criminals, born criminals, criminals by passion, are criminals by psycho-physical organisation: his occasional and habitual criminals are criminals by environment. It conduces to clearness and simplicity to keep the classification of criminals in as close connexion as possible with the conditions from which crime arises, and this object is most successfully attained when the classification is based on the two fundamental heads: organisation and environment.

In the second chapter of his work Prof. Ferri endeavours to show that punishment has hardly any effect in diminishing the volume of crime. In defence of this contention a vast amount of historical, statistical and psychological facts are adduced, and it must be admitted that these facts go a very long way towards establishing his case. It is established by a reference to history that the most severe penal laws did very little towards diminishing the offences which they were directed against. It is also established by a reference to criminal statistics that the movement of offences against property is governed by the oscillations which take place in the economic condition of the community. In periods of economic crisis these offences increase, in periods of economic prosperity they diminish. In a word, the volume of crime is regulated by certain biological, cosmical and social conditions, and it moves up and down according to the extent to which these conditions vary in the heart of the community. The edicts of the penal law are powerless, or almost powerless, to alter the conditions which generate crime, hence they are almost powerless to diminish its amount. An obstinate and unreasoning belief in the efficacy of punishment has the pernicious consequence of diverting attention from remedies which are calculated to reduce the volume of crime. These remedies consist in altering as far as possible the conditions from which it springs. These conditions cannot be altered by enacting fresh penal laws, but by carefully thought out social reforms. In so far as these reforms have the effect of diminishing the amount of psycho-physical degeneracy among the population, and in so far as they have the effect of raising the standard of material well-being, they will at the same time have the effect of diminishing the proportions of delinquency.

In a long chapter on the positive theory of penal responsibility Prof. Ferri discusses the problem of penalty from the determinist point of view. Inasmuch as the criminal is a product of cosmic, social and biological conditions criminal law cannot be based upon

the theory of individual responsibility, it must be based upon the doctrine of social defence. Although the offender is not responsible for his actions the society which he assails is bound in the interests of its own self-preservation to defend itself against his attacks. "If the criminal," says Prof. Ferri, "tells the state that he was irresistibly impelled to crime, and therefore should not be punished, the state is able in its turn to reply that it also is irresistibly impelled to punish him; that is to say, to defend itself. It is perfectly useless for the criminal to say with Reid that he did wrong because he was obliged to, and that necessity has no law; the state is able to answer: 'I also defend myself because I am obliged to, and necessity has no law'." The fourth chapter is devoted to an exposition of the methods of social defence, and is full of interesting matter as to the best way of dealing with the convicted population. The fundamental principle of Prof. Ferri's system is that the nature of punishment should not be the same for almost all classes of offenders, as is the case at present, but that it should be adapted to the various categories into which offenders are divided. The last chapter sketches the probable future of penal science, and closes a book marked by great acuteness and originality. The writer exhibits an admirable combination of philosophic acumen and practical sagacity, and whether we accept his conclusions on every detail or not we always feel that they are being presented to us by a man in possession of an unusual mastery over his subject. It is to be hoped that the French translation of Prof. Ferri's work which has just been published under the title *La Sociologie Criminelle* will induce many readers in this country to make the acquaintance of this robust Italian thinker.

W. D. MORRISON.

L'Évolution intellectuelle et morale de l'enfant. By G. COMPAYRÉ. Paris: Hachette, 1893. Pp. xxiv., 371.

The preparation of this book was announced in 1880, but one does it no injustice in saying that its chief value comes from its having appeared after the kindred books and papers of the last ten or twelve years. It is now unquestionably the best introduction to the psychology of children: it aims at covering the whole field, it is the best guide to the literature on the subject in French and English, it brings together for comparison the observations to be found there and, of course, in Preyer, and it is arranged in something like the order usually adopted in books on general psychology. And it is an introduction, not merely to what has been done, but to what requires doing. It shows how far observations have been corroborated, what kinds of observation are wanting, and what inferences are matter of dispute.

In a lengthy introduction M. Compayré discusses the interest of the subject and its difficulties and methods. He emphasises

the practical or educational interest, but is not constantly referring to it. The scientific interest is not, he says, in fixing dates at which the child is able to do things, but in finding the order of mental development. "Evidently there are laws of nature presiding over the genesis of the faculties; the thing is to discover these laws." But at the end of the book one is still in doubt, not only as to what the laws are, but as to what exactly is being sought for. What M. Compayré does is to chronicle the actual order of development, and to point out that one stage (physical or psychical) is necessary to another. Only it is not usual to call prerequisites *ipso facto* laws, and he seems to mean that the name is due if there is anything comparatively general among the prerequisites. One of these 'laws' he often speaks of—that spontaneous movement precedes consciousness—in contrast with a 'law' of adult minds, that consciousness precedes movement. But it cannot be said that such laws are the thing to discover. Much reference also is made to pathological conditions, and to the minds of animals ("qui sont comme les ébauches de la nature s'essayant à l'organisation psychique"). But the main interest is in the historical account of the growth of the functions which general psychology analyses in an adult condition.

M. Compayré practically confines the record to the first four years of life, "to the moment when the scholar succeeds the infant," for "all parts of human nature are represented in this four-year-old mind". He gives some account of opinion as to consciousness in intra-uterine life, but arguing that there is then a want of differentiation in experience, or at least a want of memory, he holds that "the psychology of the infant begins only with its birth". The new-born child is an automaton, and reflex and spontaneous actions go on for some time without consciousness, and before consciousness is possible. In the second chapter a threefold classification is made of involuntary movements. Reflex and spontaneous movements are distinguished in the usual way, and spontaneous movements are classified as automatic and instinctive; they are automatic if there is no co-ordination for an end, instinctive if there is. Under these heads the author seeks to classify the earliest actions of children which are afterwards to become conscious. He argues against the usual opinion that sucking is reflex, holding it to be properly instinctive, though without going the length of M. Espinas, who thinks the child is able to find its mother's breast. M. Compayré's argument is that though an object needs to be presented to the lips, sucking does not take place if there is no internal need, and it ceases on satisfaction. On this view it would be hard to name any reflex action that is not instinctive—*e.g.*, which cannot be inhibited. He deprecates, however, the tendency to see instinct everywhere. M. Perez "would have, if not with the ancients a god, at least an instinct of sneezing". Crying he holds to be

mainly spontaneous and automatic to begin with—certainly not expressive of conscious irritation or a feeling of weakness, as Kant says, nor, in the case of prolonged cries, merely a respiratory reflex, as Preyer says. Later, when the infant is able to pay attention to its cries, they are due, not to a feeling of weakness, but rather the opposite: "the crying child has often pleasure in crying," merely as exercise. Smiling, laughter, sobbing, and sighing are similarly explained; they are automatic till practice brings them to consciousness, and consciousness somehow gives them meaning. What reflexions one would make on this chapter concern the limits of the three categories—what kinds of stimulus M. Compayré would allow to differentiate reflex from spontaneous movements, and, among the latter, what kind and degree of purposiveness he would allow to differentiate those that are instinctive from those that are automatic. One also doubts what he says on the weakness of reflexes in infants. He denies that this is owing to incapacity in the motor apparatus, to weak vitality, or to want of practice, believing it to be due to obtuse sensibility in the sensory nerves.

An excellent account is given of the results of research bearing on sense-perception. With respect to sight, the matters investigated have been the range of vision in breadth and depth, the ability to localise objects at a distance, the power of co-ordinating movements of the eyes and the eye-lids, and the sense for colours. M. Compayré collects and arranges the observations and experiments that have been made, and discusses wide discrepancies, tracing them where possible to differences in the methods employed—as in testing for short-sight, and the power to distinguish colours. He does not give material of his own, but he makes it clear what sorts of observation and experiment are required. He also enters upon several well-known disputes. The experiments of Preyer and Binet he concludes to be sufficient to show that the sense for colours at the red end of the spectrum is developed first, but he would be slow to argue about the colour-sense of early races. He treats in the familiar way the origin of the perception of the third dimension, concluding that "the natural perceptions of sight reduce themselves to colour and surface extension: all the rest is acquired"; but he sees no incongruity in assenting to the view that "up to a certain point" the feeling of convergence gives "a vague notion of distance". He also takes up at some length the question of control over the ocular muscles, arguing against Preyer that not all attention is a matter of will. The argumentation here is somewhat typical of much else throughout the book. His view is that, when combined action of the eyes chances to occur among their numerous independent movements, it is selected and maintained in preference to unco-ordinated action of the muscles of the two eyes. The agent in the selection is "a dominant sensation continued or often renewed". Hence "the

ocular muscles take, so to say, the habit of associating their movements . . . and once they have taken the ply they keep it; . . . so that, on the day when will shall appear, it will find the optical mechanism quite ready to function under its orders". This kind of reasoning is unfortunate. It gives one power to "*une sensation dominante*," another to "*un désir, une curiosité intérieure*," and a third to "*la volonté*". And it is not conscious enough how little is explained by "the empire of a dominant sensation" and the rest. M. Compayré's historical account is the matter of value, and to it we take no exception ; but one does not gather much from his expansion into an empire of what he also calls "la force même des choses".

There is an interesting chapter on the other special senses, followed by one on the origin and expression of early emotions. "Gluttony is the first of the passions," and anger and jealousy appear first in connexion with it. Fear requires previous experience in most cases: "a child that has not been beaten does not understand the meaning of threats, and is not frightened by them ; you go towards him with hand open to beat him, he will answer you with a pretty smile". But he maintains that there is instinctive fear of what is new and unknown, and of darkness. None of the examples quoted are decisive, however, as to whether and when fear is or is not instinctive. Indeed it is far from clear what is meant by instinctive and what by fear—what is the minimum amount of imagination that would not disqualify fear from being instinctive, and whether, under fear of what is unknown and of being alone in the dark, we are to understand not merely astonishment but disappointment. The one observation of the author's own only shows the vagueness of the question: he caps Preyer's story of a girl of four months crying when she saw her mother with a big hat on her head with one of his own son of four years and a half getting into "an actual rage" because he spoke to him in patois. He argues against Darwin's view that there may be specific fears inherited by children. He holds that there is at first a period when fear is wanting, and that the feeling rises in proportion as the child comes to feel pain and its own weakness. That makes it all the harder to see the value of the discussion on the innateness or the instinctive character of one emotion more than another. And M. Compayré seems to feel this in his treatment of love in children. The child has an "instinctive tendency" to love. There are reasons why its love attaches to one person rather than another, as a climbing plant takes to one tree rather than another; but the reasons are not the life of the thing. In its early leanings the child is an egoist, and (according to a later chapter) the more so the better: natures that are "dry, without tenderness, hard at heart," are just those that have not at first been passionate in their egoism. This egoism is, however, "amiable," not of the calculating or "perfect" kind. Altruism is the adult state of it. The growth

is through the sympathies of children for others, and these are deep in proportion to the depth of its egoistic feelings at the start. For its sympathies are for persons and things that seem to be on the same plane of feeling with it, and so for its parents who seem to feel its pains and pleasures, and for animals which seem to share its weakness.

The lack of memory in the earliest years is attributed to the want of unifying principles—the ideas of self and of time,—to the child's interest being absorbed in what is present, and to the want of language. Whether some of these are causes or effects is, of course, a question. M. Compayré also treats of the peculiar strength of memory a year or two later on. He does not seriously attempt to account for it; what he says comes practically to this, that, since memory is specially strong after sleep or moderate eating, "it is natural that in the morning of life, when the soul wakes for the first time in all its youth and freshness, the faculty of memory should also develop with extraordinary force". He combats the view that in childhood memory is vague: rather, "the capital defect is that it is literal and mechanical".

There is much that is worthy of notice in the next chapters. The seventh is on the different forms of imagination, the eighth on the development of consciousness and attention and on the association of ideas, the ninth on imitation and curiosity, and the tenth on judgment and reasoning. Fault is certainly to be found with this arrangement, which is due no doubt to the author's tendency to multiply faculties, but the book suffers little.

One turns with especial interest to the next chapter on "How the child learns to speak". It touches on all the questions that have been raised in this connexion. There is, of course, nothing corresponding to Preyer's elaborate history, but a summary would have been useful, especially a diagram such as Dr. John Wyllie has in his series of articles on the subject (*Edinburgh Medical Journal*, vol. xxxvii.). There is not very much said about the parallel with speech-derangements in the different forms of insanity, nor of how far there is common illustration of the "law of least effort" in the language of children and in the shifting of sounds in the history of a language. And indeed it is doubtful as yet how much is to be made out of these inquiries, child speech illustrating so very much at first sight. There is no speech-derangement due to any sort of brain lesion that is not also found in children; and the law of laziness, economy, or least effort, is found taking every sort of liberty. So that there is not very much to be said without more material. The question which M. Compayré treats most fully is the degree of spontaneity shown by the child in the acquisition of language,—especially the disputed question whether it invents both word and sense, and so whether there is likely to be value in knowing the sort of words and the extent of the power. He holds that there are pure examples in the child's imitations of animals and its interjections, but that words like

ham, *tem*, *mum* are corruptions of words it has heard. He seems, however, to admit the power without limitations, holding that what is wanting is the need for using it. He denies that there is any argument in the fact that deaf-mutes (who are only deaf) do not speak, and he quotes Laura Bridgman's case and Mr. Hale's narratives as crucial instances. His view is that children feel no necessity of coining significant words as primitive peoples did, that it is "perhaps necessary" for the parent to start them in the use of sounds, but that they have and use the power of going on spontaneously after that. The last section of the chapter shows how the logical attitude of a child is revealed in various ways by its language.

The next three chapters are mainly ethical. They are partly polemical on account of the author's view of what constitute real acts of will and morality, and when these appear in purity. But aside from this there is a careful account of the growing breadth and complexity of early activities. As to moral tendencies, the author, without being optimistic, holds a brief against the bad qualities assigned to children. Children don't torture animals from want of pity: "the child is a cartesian without knowing it," taking animals to be automatic like its playthings. As for the charge of lying, that is not proved by the child's realistic imaginings. "The child is not a born liar;" it is awkward at first, though there is "in it, as in woman, natural finesse to assist its weakness". Theft is excusable, property being so difficult to define, and "the child has not yet studied the code". Gluttony, vanity and indocility are probably acquired through bad example and the weakness of mothers. Anger and jealousy, however, are natural perversions. It is unnecessary to remark on this, or on the view that ideas of justice and the feeling of human solidarity are very early, while remorse and repentance are as late as six or seven.

After describing the various kinds of madness that have been found in children, M. Compayré concludes with a contentious chapter, chiefly on the consciousness of self. He argues against Luys as holding a "new nominalism" that would make self-consciousness come to light by teaching the child to use the pronoun when speaking of himself, and especially against Preyer as holding "the doctrine of the sensationalists, that the self is but a collection of sensations". These arguments are sufficiently familiar, being of the usual sort—what is physiologically conceivable is psychologically inconceivable. The author's own view is expressed too meagrely to admit of special discussion: the child is easily able to know itself as a person, "because in fact it is a person"; but at first consciousness is without distinction of subject and object like the vaguest feeling we have on waking from sleep; in the child (as in the adult gradually waking) it is memory that works to produce the feeling of self; and the feeling is developed and strengthened when will comes and enables the child to regard itself as a cause.

M. Compayré is so well known to be a writer on education that it is necessary to mention two marks which distinguish him from the bulk of educational writers in books about children. One is that the style is not diffuse and exuberant, the other that the advices about education are neither trivial nor even frequent enough to be irritating. The references to education would have been more interesting if they had not been so sensible; there is nothing like Locke's doctrine of punishments before the child has memory enough to bear a grudge against their author, or Mr. Spencer's idea of its organic omniscience. M. Compayré's view is that "the character of the child is a piece written in collaboration" by nature and education, and that the parent should be present throughout its mental birth to provide against the distortion that may come from either collaborateur. But as yet not much ground has been made for scientific interest, the dispute as to the relative forces of nature and education being, in its general form, somewhat meaningless.

W. MITCHELL.

VIII.—NEW BOOKS.

The Process of Argument. By Alfred Sidgwick. London: A. & C. Black. Pp. 232.

An attempt to apply the views advocated in the author's recently-published book on *Distinction and the Criticism of Beliefs* to that part of Logic which is concerned with material inference. 'Argument' is here conceived in its widest sense—not only as controversy between two parties, but, as the struggle of Belief with Doubt, whether between two parties or not. The general aim is to show the composite character of the component parts of any argument, and the gradual character of the difference between sound and unsound inference.

The Skeptics of the Italian Renaissance. By John Owen. London: Swan Sonnenschein & Co. Pp. xvii., 419; xxxvi.

Mr. Owen defines the true Skeptic as "the seeker after ultimate Truth, or, in other words, the Absolute". What he desiderates is "not only demonstrable and infallible, but unconditionally perfect and all-inclusive Truth" (preface, pp. xi.-xii.). The definition seems excellently adapted to cover all philosophers except those whom historians have agreed to call by that name which we all pronounce as Mr. Owen writes it. Neither Pyrrho nor Carneades, neither Montaigne nor Hume was a Skeptic in his sense of the word. On the other hand, his definition suits Descartes well enough; and although every one else thinks of Descartes as a Dogmatist, he is referred to as a Skeptic in this volume (p. 346). But the traditions of language are speedily avenged. A little further on we learn that in Theology the Skeptical Method "not only allows but postulates a defect of demonstrable knowledge as an inevitable condition of man's limited faculties" (p. xiv.). It appears then that the "Skeptic" seeks for perfect truth with the certainty that neither he nor any other man can ever attain it. If such an infatuated person ever existed a useful name ought not to be misappropriated for his benefit. In point of fact Mr. Owen's "Skeptics," at least so far as the present volume goes, are persons who make war on time-honoured abuses or on traditional fallacies, occasionally substituting for them new practices or principles of their own or of other persons—it does not much matter which. They had better perhaps be called intellectual reformers than Skeptics.

The Italian race, great in the fine arts, in literature, in jurisprudence, and in physical science, has always been singularly weak in pure philosophy; and these so-called Skeptics of the Italian Renaissance would make but a poor show if Mr. Owen had not pressed several men of letters into the service. Dante heads the list by virtue of his alleged Protestant sympathies; but his claims are so feebly supported that no time need be wasted in discussing them. Petrarch has more pretensions to the character of a free-thinker; but on examination these resolve themselves into the natural distaste of a humanist for scholasticism, medicine, jurisprudence, and astrology. His religious orthodoxy seems to have been unimpeached; and the same may be said of Boccaccio, towards whom Mr. Owen shows a strange tenderness, even placing him in line with Descartes as a European teacher. The "lesson of the Decameron," it seems, was "the primary veracity of the human conscience" which he

reached by "stripping off the figments and falsities of mediæval belief," "just as Descartes penetrated through the alluvial strata of his acquired knowledge until he came to the primary rock of consciousness" (p. 142). Their real relation was the very reverse of what is here stated. Such a notion as conscience had never dawned on Boccaccio; and the sensuality which was his sole guide in life would be better paralleled by the philosophy of simple sensation which Descartes so summarily threw aside. Much stress is laid on the apologue of the three rings as a protest against Roman Catholic intolerance; but Boccaccio did not originate the story; and it seems to interest him chiefly as a clever way of escaping from a difficult situation. Another singular example of "Skepticism" understood as a search for absolute truth is offered by Pulci who, on Mr. Owen's own showing, believed in nothing but the gratification of animal appetite. On the other hand very hard measure is dealt out to Machiavelli, whose political unscrupulousness is certainly not more immoral than the treachery practised towards one another by husbands and wives with the full approval of Boccaccio, while it is at least made subservient to a noble end—the unity and independence of Italy. In the instance of Machiavelli "Skepticism" is interpreted as disbelief in the goodness of human nature, as if this did not imply an equally positive belief in its wickedness, and as if his denunciations of his own countrymen and contemporaries applied to mankind in all places and at all times. At least they did not apply to the Germans, whose goodness he particularly admired. The last literary "Skeptic," Guicciardini, is praised for his "probity and integrity" with a confidence that will excite some surprise in Italy.

We now pass to the only philosophers properly so called whom Mr. Owen presents as types of Italian Renaissance "Skepticism"—Pomponazzi, Giordano Bruno, and Vanini. About the lives and teachings of these three men a great deal of information, which will be new to English readers, is given in a very picturesque, if somewhat diffuse and rambling, style. But as philosophical criticism and historical deduction these sections of the volume possess little value. Pomponazzi was not an original thinker but merely a commentator on Aristotle, who asserted with perfect justice that human immortality was inconsistent with his master's teaching, although he, as a Christian, was bound to accept it. By virtue of what definition can this attitude be called "Skeptical"? Certainly by none that Mr. Owen supplies. Giordano Bruno had the merit of entirely discarding the authority of Aristotle and reviving, with the assistance of the Copernican theory, those older and truer speculations of Greek philosophy which Aristotle's system had so long kept in abeyance. To call such a man a "Skeptic" would be outrageous, even if, as quoted by Mr. Owen (p. 296), he had not expressly ridiculed the skeptical attitude, likening it to that of an ass that halts between two ways not knowing which to take (p. 296). Indeed we find an admission that his "Skepticism" was only partial (p. 341), amounting as would seem to no more than an acknowledgment that the One, the Absolute, and the Infinite are, in their abstraction, incomprehensible by human reason (p. 305). But this does not entitle us to say that he was "distrustful of attaining truth" (p. 304), a position quite incompatible with the faith in the ultimate triumph of truth ascribed to him elsewhere (p. 264). By the way I may mention that this transcendentalism of Bruno's, whether "Skeptical" or not, is radically distinct from the idealism of Hegel with which Mr. Owen seems to confound it (p. 335). The last so-called Skeptic is Vanini, a second-rate Aristotelian who owes what little reputation he still enjoys

to his tragic death. This exorbitantly conceited and intellectually irresolute young man was neither a type of his own age, being, as would appear, totally ignorant of the vast scientific revolution that was going on around him, nor a precursor of modern thought, but a belated straggler, what the Germans would call a *Nachzügler* of the Renaissance. Mr. Owen epigrammatically characterises the attempted explanations of physical phenomena given in his *Dialogues* as "Ignorance tempered by superstition," but unfortunately adds that "the same reproach may be made to every physical inquirer of his time" (p. 384). Is he not then aware that Galileo, Kepler, Bacon, Gilbert, and Harvey were contemporaries of Vanini? From a reference further on (p. 407) he would seem not to be ignorant of the fact but merely to have ignored it. Elsewhere he quotes as Vanini's contemporaries, Cardan, Telesius, Agrippa, and Fracastoro (p. 404), of whom three lived a century earlier, and the fourth died nine years before his birth. As a specimen of this unfortunate young pretender's "skepticism" we are told that he "sums up the limits of human knowledge in words of perennial significance: 'effectum rei conspicimus, causam vero ignoramus'"; "a truth," according to Mr. Owen, "which the most recent advance of modern science cannot transcend" (p. 385). A Peripatetic of the Renaissance would be as little likely as a modern scientist to utter such a fallacy as that "we can only know the effect, never the cause"; and in fact, as we learn from a note immediately afterwards, Vanini was only talking about one particular phenomenon, the depression of the magnetic needle. Mr. Owen repeatedly calls Vanini a martyr, but the truth is that, unlike Bruno, he has no claim to that honoured name. A martyr is one who refuses to disavow his convictions for the sake of preserving his life, liberty, or worldly goods; and this choice was never offered to the poor victim of Toulouse. According to Mr. Owen's own pathetic story he was condemned not for any of his printed opinions, but on a charge of blasphemy uttered in private conversation, which he repudiated and which may have been false. The alternative of recantation neither was nor could be offered, for blasphemy can no more be retracted than murder.

Chronology, as will have been observed, is not a strong point with Mr. Owen; indeed with him this eye of history suffers from a kind of permanent astigmatism. Thus the *Divina Commedia* is referred to the thirteenth century (p. 23), Pulci to the fourteenth century (p. 155), Plethon to the fourteenth century (p. 185), and Bruno to the close of the fifteenth century (p. 13). Such slips might be explained by familiarity with the Italian habit of saying Trecento Quattrocento, &c., where we say the fourteenth or fifteenth centuries, were it not that elsewhere Bruno figures as "the freest thinker of the thirteenth century" (p. 263). It is less wonderful that he should "arrive at Venice in 1592," "pass some seven or eight months" between that city and Padua, and finally be arrested on the 22nd of May of the same year (pp. 280-82). Certain philosophers "comment on Aristotle and Plato . . . as if their lot had been cast in Greece 400 B.C." (p. 187). Pomponazzi left Padua in 1509 and did not return to it. Nevertheless he was "peacefully lecturing" there when "Luther had already commenced his campaign against the Papacy" (p. 216). A quite gratuitous reason is given for the tardiness of English as compared with French philosophy (p. 8)—as if Bacon did not precede Descartes by a whole generation. On the other hand we find "the French Revival of Letters immediately preceding the Revolution" (p. 224). Mr. Owen quotes "Horace [? Sir Robert] Walpole's emphatic verdict: 'Tell me not of

history, for that I know to be false'". His own at any rate is but partially true. It was not Elea but Colophon that "gave Xenophanes to Greek philosophy" (p. 262). Whatever may have been the case with other Italian cities, the municipality of Florence was certainly *not* "modelled on the civic government of Republican Rome" (p. 20); nor, if the citizens of the Italian Communes read their classics, were they likely to revere the Scipios as "vindicators of popular rights" (*ib.*). It would have been difficult for Hildebrand to ask: "Was a Hohenstaufen Prince to be regarded as superior to the High Majesty of the Eternal?" (p. 17) unless he could foresee what was to happen a hundred years after his time. Mr. Owen is not lucky with the Hohenstaufens. He calls Frederick Barbarossa "the most remarkable example of Free-thought and Religious Tolerance in the age preceding the Renaissance" (p. 50), and refers to an accusation brought against that sovereign of having "abjured Christianity and embraced the faith of Mahomet" (p. 69), evidently confounding him with his grandson, the great emperor Frederick II. The statement that "few of Aristotle's works were known [to Thomas Aquinas], and those only in the form of Latin translations made from Arabic versions" (p. 197), would be inexcusable anywhere, but is doubly so coming directly after a reference to Jourdain's *Recherches Critiques*. A professed student of Giordano Bruno should know better than to say that the Copernican system was unpleasing to theologians because it "degraded" the earth and "reduced it to a secondary and tributary position" (p. 260). It was the Aristotelian system that made our earth the common sink (sentina) of the universe, whereas Copernicus raised it to a level with the heavenly bodies. Mr. Owen is always attacking Roman Christianity, between which and morality he finds an "impassable gulf" (p. 135), but he can hardly have studied its theology or he would not say that the effect of Dante's *Inferno* was to make men ready to sacrifice their last farthing to deliver a dear friend from the "filthy bolgias" depicted by the poet's "ungainly imagination" (p. 226). The amazing statement that Vanini "found the Protestantism of Canterbury perhaps even more impatient of philosophical freedom than the ecclesiasticism of Rome" (p. 406) is virtually retracted on the same page. Vico—presumably the Neapolitan philosopher—figures as a martyr of Romanism (p. 248), but where or when or how is not stated.

One regrets to hear that "the author did his share of the proof corrections during a memorable period of debility and prostration," which is perhaps the reason that the pages swarm with misprints. Evidently the index is not his work, nor can he even have given a hasty glance through it. The worst blunder in the body of the work pales before such assertions as that Boccaccio, Pulci, and Ariosto are types of Renaissance *Weltschmerz*, that Boccaccio was a friend of Dante, that Machiavelli wrote the *De Monarchia*, and that Boethius, the fifth century philosopher, carried on a dispute with Giordano Bruno.

ALFRED W. BENN.

Theosophy or Psychological Religion. The Gifford Lectures, delivered before the University of Glasgow in 1892. By F. MAX MÜLLER, K.M. London: Longmans, Green & Co., 1893. Pp. xv., 585.

These lectures afford reading of exceeding interest, not only from the lucid expositions given of ancient philosophies, as well as of the researches of other scholars into religious systems, but also as throwing light on the phase of thought through which we are passing at the present day. They cannot fail to win a hearing among the more thoughtful section of

the world of general readers, both lay and clerical. The author knows this world and what it will receive. By him we may judge of it.

Prof. Müller's theme, as previously stated, is that communion between the soul of man and the Deity, the attainment to which is viewed as the discovery of kinship or oneness in kind between the two as constituting an essential relation, is the fundamental and ultimate form of religious aspiration and conviction. "The be all and the end all of true religion is to re-unite" this bond. False religions sever it. For example, in both Hebrew monotheism and Buddhist atheism "the invisible God has been removed from the visible world" (pp. ix., 363-64), and that by mutually antithetical conceptions of Him. In Vedântism, on the contrary, in Platonism, in Sufiism, and finally in Christianity, in so far as it is a continuation of Aryan thought, the concept of this intimate relation forms the very kernel of doctrine, and the strength and truth of them. That this is so is brought out by an inquiry into and comparison of their several sacred writings, including *The Avesta*, as well as of later commentaries and less sacred treatises, and both the virtue and the viciousness of the historic method, or rather of the inferences usually accompanying the historic method, are exemplified. Praise of it is the substance of the first lecture. "The only effective way of studying what is called the philosophy of religion, or the philosophical criticism of religion, is to study the history of religion." Theoretic treatment may not be superfluous, but that in its turn is bound to become material for historic treatment. The same procedure,—frank and fearless historic criticism,—in studying Christianity is urged as a duty upon all the author's readers calling themselves Christians. Now they, if reading impartially, should loosen once and for all the association of finality, whether in revelation or development, with any one religion, and cease to feel exclusive interest in the religious life of any one section of the globe. Moreover, their inductions as to what constitute the elemental truths of religion in all religions should undergo verification by a careful crucial testing of remarkable religions which seem to lack these elemental features. And, finally, they should be led to discern that these elemental features, in so far as they are aspirations and convictions respecting the riddles of life, consciousness, and the universe, while possibly containing germs of truth, are not necessarily eternal conformities between thought and thing because they are general and a virtual *consensus gentium*. On the other hand, if they read not impartially, the historic method may become a powerful weapon of error. They may see in one creed the final consummation of all the creeds of all the ages, even if they go no further than the finality implied rather than expressed in such words as: "Both this striving to meet and the final union have found, I think, their most perfect expression in Christianity" (p. 541). They may, nay they are sure, to speak of their own religion, by no means the most rich in followers, as "flowing on" since its early victorious "struggles with the non-Christian thought *of the world*," "with irresistible force through the history *of the world*" (pp. 447, 455). Greater sanity they may learn from such a perspective as this: "The discovery of a rich philosophical literature in India has never attracted as yet the attention it deserves. Most of our philosophers cannot get over the idea that there is one way only of treating philosophy, namely, that which was followed in Greece, and was afterwards adopted by most of the philosophers of Europe. Nearly all our philosophical terminology comes to us from Greece; but without wishing to say a word against its excellence, we ought not to look upon every other philosophy that does not conform to our own formulas as

unworthy of serious attention" (p. 66). Again, instead of measuring the validity of their conception of the central truth of all true religions by important more or less antithetical standpoints, they may be led to dwarf or distort all adequate consideration of such phases: *e.g.*, of two of the most momentous in all religious thought, *viz.*, the appearance of Buddhism, rational and relativist (non-substantialist), in the ancient East, and the growth of an ethical system based on inductive science, experimental and relativist, in the modern West (pp. 386-87). And, finally, they may be led to believe that what they gain from comparing eschatologies of different times and places is "that a belief in a soul and in the immortality of the soul is not simply the dream of a few philosophical poets or poetical philosophers, but the spontaneous outcome of the human mind, when brought face to face with the mystery of death" (p. 231), and because "spontaneous," therefore a common feature of Natural Religion, and because common, therefore true.

Of the interesting expositions and discussions with which the book abounds, there may be specified of the former, the psychological metaphysics of the Upanishads or of Vedântism, an epitome of Sufi poetry, and the doctrine of the Logos; of the latter, the relationship between different religions, the influence of Hellenic mysticism on the development of Christianity, in which the author declares he has "ventured to go far beyond Harnack, Drummond, Westcott, and others" (pp. ix., x.). A brief word on each must suffice.

For the religious philosophy called Vedântism it is claimed that, as expressive of keen mindfulness of the unseen world and the life to come, it was and is a real and present truth to the average, as well as the superior, Indian mind, to a far greater degree, both in extent and intent, than any religion or philosophy has been to the general Western mind. Conditioned as they were, the inhabitants of India looked upon this life, not as an arena or a market, but as a resting-place, a mere waiting-room at a station on a journey, and their utmost curiosity was excited as to the whence and whither of them. By them Psychological Religion has been most vividly grasped and developed, Nirvâna being attained when, yet being in the flesh, the soul claims identity with Brahman, the soul of the All.

In Sufiism the author sees a possible ground of reconciliation between Christianity and Mohammedanism.

The doctrine of the Logos, the placing of which together with that of the Messiah in dual coronation on the living memories of the founder of Christianity achieved the most wonderful "identification of the minor" of all Western history,—this doctrine, viewed as the transience of the Noumenal into the Phenomenal or as the "utterance of the thought of God which made the world," is held to be one of the most natural and most accurate, nay, most true, conceptions of the world and "of the true origin of species" (p. 382). Since, according to the author, we must in denying A affirm E, since we must choose "between a belief in Reason and a denial of Reason at the bottom of all things," it is clear that the Platonic theory of archetypal ideas, or even the cosmogony of barbarians further West, *e.g.*, of Klamath Indians, is superior to modern hypotheses of "evolution,—survival of the fittest and all the rest" (pp. 383-89). The author seems to wonder that "the simple question, what the Logos was in respect to the Deity, received no definite answer from" Sokrates or Plato. The former no doubt (and in this one respect perhaps the latter) was too old to see visions and too young to dream dreams. But this defective reticence is made good in the Gifford lectures for 1892.

Finally, it is curious that the Psychological religion of Cambridge

Platonists should find repeated mention when the more truly philosophic "theosophy" of Malebranche and Spinoza is entirely passed over.

C. FOLEY.

Elements of Psychology. By JAMES MARK BALDWIN, Professor-elect in Princeton College, Professor in the University of Toronto. London: Macmillan & Co., 1893. Pp. iv., 372.

This book, as the preface intimates, is an abridgment of the author's well-known *Handbook of Psychology*. It differs from the larger work mainly in its omissions. But certain sections have been rewritten and chapters recast so as to simplify the exposition. One decided improvement on the plan of the "Handbook" is that the chapter on the Nervous System comes in its natural place, at the beginning. The points which aroused most interest in the original work were the treatment of "Feeling" and that of "Belief". Prof. Baldwin claims that he has now set his doctrine of Feeling in a clearer light. Our main difficulty does not lie in following his exposition, which is plain enough. It lies rather in the extreme comprehensiveness of the Conception of Feeling as he defines it. "*Feeling is the subjective side of any modification whatever of consciousness.*" "Whatever we mean by *my* consciousness in opposition to your consciousness sums up feeling." But the *individual* consciousness forms the whole subject-matter of Psychologists. Feeling must therefore be synonymous with consciousness as the psychologist regards it. It is a tautology to speak of the "subjective side of consciousness". What is the individual consciousness except in so far as it is subjective? It is true that the thinking consciousness refers to objects. But, apart from ontological theories, it is an abuse of language to describe the objects referred to as an aspect of the consciousness which refers to them. We might, indeed, agree to apply the term feeling to all mere anoctic experience as distinguished from the objective reference in which thought consists. But this does not appear to be Prof. Baldwin's meaning. The doctrine of Belief certainly contains much interesting and valuable matter. The genesis of the ideas of reality and unreality from primitive experiences of gratified and disappointed appetition is clearly and convincingly expounded. But it may be questioned whether an account of the genesis of this distinction constitutes an adequate analysis of the psychological conditions of belief. In conclusion we congratulate Prof. Baldwin on having succeeded in his main aim. He has produced a really good text-book for elementary classes, presenting "the newest essentials of the science in a single compact volume at reasonable cost".

Introduction to Physiological Psychology. By Dr. TH. ZIEHEN. Translated by C. C. van Liew and Dr. O. Beyer. London: Swan Sonnenschein & Co., 1892. Pp. xv., 284.

This book is a translation of the first edition of Ziehen's *Leitfaden*. In addition to the author's preface and fourteen lectures it contains a short translators' preface, a useful index and a few additional notes.

Every psychologist must welcome the appearance in English of works belonging to the literature of experimental psychology. Whether we accept the conclusions set forth in a particular book or not, it is a great gain to have them formulated in our own language. But the public has the right to demand that the labour of translation be undertaken by competent hands and carefully carried through.

I have compared with the original, sentence for sentence, chaps. i., ii. and xiv. of the present volume; and cannot predicate of the English

version either adequacy or exactness. It is true that there are no, or but few, mistakes which could seriously mislead the student. Dr. Ziehen's style is clear, and his periods for the most part short. But this makes his misinterpretation even less excusable.

The translators have aimed throughout at literalness of rendering, and at the reproduction, where possible, of the author's own sentences. The aim is, in a case like the present, most commendable, and success should not be difficult of attainment. But it is plain that, with such an object in view, the greatest care must be taken with conjunctions and other 'small words,' if the original train of thought is to be faithfully reflected. Yet another fault of the book is the translators' ignorance of the technical terms of experimental psychology. Their handling of the language in general is stiff and unfamiliar.

These statements can be easily proved from the three chapters above mentioned. Chap. i. contains four mistranslations. (1) P. 8, l. 15, should read "by flexion and, as it were, drawing in". (2) P. 11, l. 6. Here it is the normality of the decussation which is the very point emphasised. (3) P. 14, l. 21. *Schliesslich* is misplaced and, consequently, wrongly rendered. (4) P. 14, note 2. The "of course" is wrong. So on p. 15, l. 20, and p. 18, l. 6. Chap. ii. has several: (1) p. 25, ll. 17, 18; (2) p. 26, l. 2; (3) p. 27, ll. 3, 7, 10; (4) p. 28, l. 4; &c. See, too, p. 269, l. 15.

Minor inaccuracies and omissions abound. I quote some of them: p. 4, first sentence; p. 10, l. 29, and l. 30 (*also* = 'moreover'); p. 11, l. 32 ('first' omitted); p. 17, l. 6 ('only' omitted); p. 24, l. 21; p. 32, l. 6 ('which' omitted); l. 17 ('chiefly' introduced); l. 18 ('at least' introduced); p. 34, l. 18; p. 36, l. 6 ('and' omitted); l. 7 (*also* = also); ll. 28, 29; p. 267, l. 7 ('implicitly' omitted); p. 268, l. 9 (*gerade* omitted); p. 274, l. 3 ('suddenly' omitted); p. 276, l. 22.

As for technical terms: *Reiz* is rendered indifferently by 'stimulation,' 'irritant,' 'stimulus'; *Erinnerungsbild* by 'image of memory,' 'mental image,' 'idea'; 'consciousness' is made to do duty for *Vorstellungsleben*, *Selbstwahrnehmung* and *Bewusstsein*. It must in fairness be admitted that Dr. Ziehen himself has set the example of looseness of usage in this respect. 'Accessory current' is given for 'secondary circuit'; 'sensation of tension' for 'strain-sensation'; 'arrestive' for 'inhibitory'; 'power' for 'force'; 'desired' = *gewollt*; &c. The words 'motory,' 'incitation' may be misprints only. Curious phrases are common: 'retire to some other place' for *bewegt sich vom Platze* (p. 12); 'a well-estimated bound' (p. 13); 'intercedes' for 'intervenes' (p. 26); 'the same as' = 'in the same way as' (p. 268 and elsewhere).

Many of the blemishes pointed out are, no doubt, unimportant: but the list is surely too long. Paragraphs read at random in the body of the book (pp. 88 ff., 133 ff., &c.) have not led me to modify my judgment of the translation. The English student may be grateful for what is given him; but the translators must revise and revise again, if they are to be regarded either as careful or competent.

E. B. Titchener.

The Philosophy of the Beautiful, being a Contribution to its Theory, and to a Discussion of the Arts. By William Knight. London: John Murray, 1893. Pp. xiii., 281.

A University Extension Manual is not expected to be profound or exhaustive; it can afford to do little more than present a conspectus of the essentials of its subject (for that usually makes up in range the limitations in scope), be suggestive as to ultimates and tendencies, and regulative as to 'extension' of study possible to the reader. The manual

under consideration, which is the sequel to the author's *History of Æsthetic Theory*, fulfils all these functions. It throws out with easy, unlaboured treatment suggestions towards a "more complete theory" of the nature and functions of Beauty, briefly criticises "inadequate or partial theories of Beauty," glances at the nature and functions of Art, stays a while longer over the correlation of the arts, and finally allows itself some expansion in a discussion on each of them. Moreover the work is conceived in a conciliatory spirit, and endeavours to co-ordinate some traditionally hostile standpoints, so far at least as is possible in a few slight sketches. The chief points in Prof. Knight's theory of Beauty when sifted out appear somewhat as follows: Beauty as discerned is a phenomenon both of subjective and objective validity. *If* we discern it by a special faculty, there must be an affection and co-operation of other faculties, since each so-called faculty "is but a manifestation of conscious life working along a particular channel of activity". A psychological study of Æsthetic, both analytic and genetic, is the requisite introduction to the Philosophy of the Beautiful. (The author does not undertake to outline the psychological data of æsthetic, such as this position seems to call for.) But no analysis will reveal the nature of Beauty, for this involves a "higher synthesis". Beauty is discerned in inverse proportion to intensity of sensation. Appealing in the first instance through sense, it suggests, as pleasure-evoking, something purely subjective, but when grasped by the intellect it is recognised as objective. It lies in the type or Universal (Platonically conceived), and types are "mind-forms" variously embodied, evolving out of antecedent forms in the process of ages, and forming *inter se*, when shaped by the life-energy of the world which is the effective working of "Natura naturans," a unity or harmony. In this fructifying stream of life "the ultimate Beauty resides and reveals itself, being "the disclosure of the Absolute through the relative," the revelation or radiance or suggestion of the unseen mind-form or noumenon. All other theories of Beauty are partially true only. Beauty, no doubt, is pleasure-giving, useful, proportion, unity in variety, and its standard through the influence of pleasure becomes established by association and habit. But these do not exhaust its nature and functions, and the theory now put forward alone accounts for the idealism or *representative* unity of a genuine, and not merely imitative work of art. Such a product is an endeavour to seize and bring out in the most representative embodiment possible the hidden mind-form of which some object is the expression in the macrocosm, and with which the human microcosm in discerning it finds itself akin. And as this relation is apprehended within certain limits diversely by different minds, and at best imperfectly, so an absolute standard is consistent with the relativity of knowledge, and with a virtually infinite progression in artistic approximations to that standard.

Mr. Pater's theories respecting music as the consummate art, and sensuousness rather than intellectuality as the essence of art, are combated. Historical sketches of Russian and Danish Æsthetic, omitted from the companion work, are appended.

Ethics: An Introductory Manual for the Use of University Students. By F. Ryland, M.A. London: George Bell & Sons, 1893. Pp. x., 220.

"The object of the following pages is to give a sketch of ethical theory designed in the main on the customary English lines as laid down in the regulations of the University of London" (Preface). Mr. Rylands has produced a very clear and well-written little book, admirably adapted for its purpose, and containing acute and suggestive observations which show him to be fitted for much more ambitious undertakings.

Introduction to Philosophy. Dictated Portions of the Lectures of Dr. L. Busse, Professor of Philosophy in the Imperial University. Second Edition. Tokyo. Pp. 151.

Portions of the Lecture on Ethics, held by Dr. L. Busse, Professor of Philosophy in 1889. Tokyo. Pp. 70.

These lectures were delivered in English by a German professor to Japanese students. They contain little more than a slavish reproduction of Lotze's doctrine. In many places his very words are used. The author's English is very curious. As evidence of the mode in which Philosophy is taught in the University of Tokyo the lectures have a certain interest.

L'Idiotie. Leçons Professées a l'Hospice de la Salpêtrière. Par le Dr. Jules Voisin, Médecin de la Salpêtrière, Médecin du Dépôt près la Préfecture. Paris: F. Alcan, 1893. Pp. 295.

This book is a reproduction of a series of twelve lectures delivered at the Salpêtrière during the present year. The first five treat of the nature of pathological as compared with physiological heredity, of the causes of idiocy, of its pathological anatomy, of its definition and classification, and its symptomatology. But the most interesting part of the work to the psychologist is to be found in the remaining lectures, which are concerned with the mental condition of idiots and their education. For psychological purpose much valuable material may be derived from the account of the protracted process of artificial training by which the idiot is gradually and imperfectly put in possession of those mental acquirements which come to the normal human being in the first years of infancy. In particular, much light may be derived from this source in regard to the distinction between sensation and perception. A long course of education is needed to make possible for the idiot the synthesis of the data of the different senses in the perception of an object. Similarly with motor intuitions. The movement of prehension, the use of knife and fork, the putting clothes on and off, walking and articulation are gradual, difficult and laborious acquisitions. It is noteworthy that the education of idiots is possible only through an appeal to the simple and primitive impulses connected with self-conservation. For instance, the movement of prehension is taught by holding before him tempting morsels of food. We recommend Dr. Voisin's lectures as containing a clear and well-arranged exposition of a subject possessing great psychological interest.

Des Phénomènes de Synopsie (Audition Colorée). Par Th. Flournoy, Prof. extr. de Psychologie expérimentale à l'Université de Genève. Paris: Félix Alcan, 1893. Pp. 259.

This account of the curious phenomena commonly called, from the most frequent and best known cases, "audition colorée," is based upon two separate inquiries, one conducted by the author himself since 1882 in his immediate neighbourhood, the other opened in 1892 by M. Edward Claparède with the circulation of a printed set of questions. The account is given, as the investigation was evidently made, in a sober and unprejudiced spirit, with full consciousness of the difficulties and shortcomings incident to such inquiries. The results obtained are formulated under the heads of *photismes* (simple visual impressions, whether luminous or coloured), *schèmes* (*symboles* or *diagrammes*) and *personnifications*, and may, the author thinks, be all fairly well explained by the three laws of

affective or emotional, habitual, and accidental (*privilegiée*) association. These laws are however admitted to be inadequate to meet the singular case recounted by M. Grüber at the Psychological Congress in London, a case to which the inquiries now in question afford no parallel, although they yield results curious enough to justify the interest excited in the subject.

Hypnotisme et Double Conscience, origine de leur étude et divers travaux sur des sujets analogues. Par le Dr. AZAM, Professeur honoraire à la Faculté de Médecine de Bordeaux, Correspondant de l'Académie de médecine, Lauréat de l'Institut, &c. Avec des préfaces et des lettres de MM. PAUL BERT, CHARCOT, et RIBOT. Paris : F. Alcan, 1893. Pp. 375.

In this volume, Dr. Azam, who was one of the first Frenchmen to make a serious study of hypnotism, brings together a number of memoirs, papers and addresses on hypnotism, somnambulism, alterations of personality, mental affections resulting from injuries to the brain, &c., together with a study of character in health and sickness. The most important of the papers relate the now classical story of Félida —the first case of 'periodical amnesia' or double personality subjected to scientific observation—which was commented on in MIND, O.S., when first published in 1860. It is of some interest to recall that, in the case of Félida, there was no 'double consciousness' in the sense of consciousness of a double existence, and that the even striking differences between her character in the normal and in the abnormal condition might in Dr. Azam's opinion be plausibly explained through the presence or absence of memory and consequent knowledge or ignorance of her peculiar mental state. A good deal of wearisome repetition is involved in this plan of reprinting *in toto* papers written for different sets of readers and at a time when the facts treated of were not so familiar

Lectures sur la Philosophie des Sciences. Par ANDRÉ LALANDE, ancien élève de l'École normale supérieure, Agrégé de philosophie, Professeur à l'École Monge. Paris : Librairie Hachette et Cie., 1893. Pp. 351.

These lectures are very similar in scope and aim to Prof. Karl Pearson's *Grammar of Science*, reviewed in the July number of last year's MIND. Both writers—Prof. Pearson with a view of reforming the fundamental conceptions of science, Prof. Lalande in order to combat at once empiricism and mysticism by restoring faith in the human reason—seek to exhibit science as the gradual reduction to order of the original chaos of sensations, and scientific laws as ideal constructions or "conceptual models" rather than as facts of experience. In their conception of nature, they thus equally derive from Kant; the divergence in their treatment of the moral and mental sciences is therefore the more marked. They are agreed in rejecting what they call 'metaphysics' or the Science of 'things-in-themselves,' but while Prof. Pearson ranks Kant, so far as moralist, among the metaphysicians, Prof. Lalande accepts the 'practical reason' as a basis for Ethics of equal authority with the 'pure reason' as basis for natural science. Thus for the one Ethics is only the study of the moral man, or a special branch of psychology, for the other it is an independent science.

In treatment the French work lacks the force and originality of the English, if it also avoids some of its inconsistencies. The difference is especially apparent in the discussion of the meaning of 'law,' which is the occasion for one of Prof. Pearson's most brilliant chapters, but where Prof. Lalande contents himself with a couple of quotations from Montes-

quieu and Rousseau, adding of his own only a brief note to point out a confusion. He adopts indeed throughout, and in order to meet the requirements of the "programme des classes de mathématiques élémentaires et de premières sciences," the plan of writing wherever at all possible in quotations, a method which, whatever its value for teaching purposes, a good deal impairs the unity both of style and thought. Of the quotations, that from Pascal on pp. 27-30 should be referred not to the *Pensées* as in the edition of 1819, but as in the later and more accurate edition of M. Fougère to the *Préface sur le Traité du Vide.*

Sémites et Aryens. Par CHARLES PICARD. Paris : Félix Alcan, 1893. Pp. viii., 104.

Citing Renan's dictum, that modern philology reveals as its essential result a dual contrasted current of Indo-European and Semitic civilisation, the writer sets forth what he considers to be the main features of this antagonism, as shown in the religious attitude of both races, devoting attention almost exclusively to that of the Semite. Whereas the Aryan, with a prevailing Pantheistic or Monistic tendency, has built up creeds of trust in universal justice, and of kinship and union with the Divine, the Semite has ever confronted a hostile deity, darkly inaccessible, a devouring fire, insatiably demanding atonement and sacrifice. "Molochism" has been the typical form taken by his efforts to appease his divinity, whether it was worshipped as Moloch, El, Baal or Jahveh, and the passover originally involved the general partaking of the flesh of human victims till this was commuted by the lamb. In a brief review of the opposite ideals of Aryanism, the writer somewhat "gives away" the case for these, by confounding Buddhism with Vedântism, a purely rational ethical philosophy with religious aspirations based on certain Pantheistic convictions, which that philosophy was concerned to overthrow.

Descartes. Par ALFRED FOUILLÉE. Paris : Hachette et Cie., 1893. Pp. iv., 206.

The *raison d'être* of this, the most recent accretion to Cartesian literature, is the progressing roll-call of the series entitled "Les Grands Ecrivains Français," which herewith puts forth its twenty-fourth number. M. Fouillée does not pretend to have any specially original message to utter concerning the work and influence of Descartes. He only insists on the utility, in an analytic age, of directing attention to the heroes of thought who have indicated ends to be attained, and themselves made way towards attaining them. He divides his monograph into an introductory biography, and four books, dealing severally with the system of the universe according to Descartes and according to modern science, Cartesian idealism, the psychology and ethics of Descartes, and the influence of Descartes on literature and philosophy. In the former direction his influence, the author believes, has by Cousin and others been overrated, although he admits that, with the *Discours*, French assumed in science the position till then held by Latin. But he is in no way disposed to underrate the almost unparalleled effect wrought by Descartes on science and philosophy. The "Cartesian revolution" was not so much the starting from introspection and working towards truth by way of psychological reflexion, as the imposing on all science mechanical, *i.e.*, quantitative methods of procedure. Again, Descartes was the true Copernicus of modern science, exhibiting all explanations by qualities, forces, causes, ends, as merely "anthropocentric". Greater, moreover, than those who solve problems are they who discover problems. To

Descartes we owe, besides many others, that of the distinction drawn between subject and object in knowledge, as well as the irreducibility of thought to movement. For a century and a half after his day, there was hardly a thinker or writer of note who was not more or less Cartesian. In Locke, Berkeley, Hume, and Newton, England nourished Cartesianism, and handed it back to France,—*e.g.*, in D'Alembert; while in Germany its great sequel and renovation was accomplished by Kant. If Descartes were to come back amongst us he would find his great doctrines triumphant, his critical and analytic methods universally applied. All this is substantiated in a lucid and interesting exposition, and finally summed up in cumulative sentence of nearly three pages in length.

La Philosophie en France pendant la Révolution (1789-1795). *Son influence sur les institutions politiques et juridiques.* Par E. Joyau. Paris: Arthur Rousseau, 1893. Pp. iv., 305.

This book can hardly claim to throw new light on the nature and tendency of the French philosophy which preceded, or found expression during, the Revolution, being little more than a digest of cultured French opinion on the one and the other. But it is of interest as a study in what might be called, by analogy with other sciences, applied philosophics. The writer finds that French historians of philosophy have shirked assigning a fair place in their histories to this period, although it constitutes *une phase originale, sans analogie dans l'histoire de l'esprit humain.* Only "pale epigoni" succeed the greater minds of the century —Condorcet, Volney, Dupuis, Naigeon, Bernardin de St. Pierre, in place of the deceased Voltaire, Rousseau, Condillac, D'Alembert, Diderot—nor is abstract study possible under the circumstances of the age. But we find ourselves confronting "*une pénetration, une infiltration malheureusement incomplète et insuffisante des idées philosophiques dans la masse de la nation, une tentative de réalisation immédiate des théories développées par les philosophes du milieu du siecle*". This permeation is traced in such features of the epoch as the Declaration of the Rights of Man, the Reform of the Calendar, manuals of Republican morals, the cult of Reason and of the Être Supreme, the rise of the Theophilanthropists, &c.; its inefficacy to restrain and guide the surging tide of social passions is traced, not only to the low level of general culture in a society corrupted by effete institutions, but also to those grave defects of eighteenth century philosophy, over-deductiveness and want of seriousness, together with absence of historical and statistical method and insufficient heed to the "People" and all that the state, needs, and possibilities of that large factor involved.

Les Bases de la Morale et du Droit. Par l'Abbé de Baets, Docteur en Philosophie de l'Université Grégorienne de Rome, &c., Secrétaire de Sa Grandeur Mgr. l'Evêque de Gand. Paris: Félix Alcan. Gand, Alphonse Siffer, 1892. Pp. xxiii., 385.

After a few pages on Method and a brief preliminary section, this work is divided into three books, which deal respectively with (i.) the "objective element" of Morality and Rights—including a consideration of the conformity of actions to a rule, of the beneficent character of moral actions, and of obligation. (ii.) The "Subjective element," or Imputability—the reference of actions to specific individuals as *their* acts. The conditions of Imputability are given as Full Consciousness, Freedom, and Deliberateness. (In this section we have a chapter on the "Formation of Free Will" by means of education and correction.) Book iii. treats of Responsibility—the result of Morality and Rights.

After considering in book i. the 'Objective' elements of Morality, M. de Baets gives a summary exposition and criticism of the views of Kant, Bentham and Stuart Mill, Spencer, David Hume and Schopenhauer (in the order mentioned). In his view, none of these writers furnish a satisfactory basis of morality—this, he says, is to be found in that end or destination of man which God has appointed; namely, knowledge of Truth and Love of Good. This end of his being is imposed upon man by God, the Infinite, Perfect, and All-Powerful; and man's Duty is conformity to this will of God, on which he depends wholly, although at the same time he is free to accept or reject the end appointed. M. de Baets considers that all the problems of life and conduct are completely illuminated and unified if considered in relation to this central idea of "man's end, willed by God, but subject to man's free choice".

The book is rhetorical in style, but very readable, and sometimes almost fascinating; and the author's painstaking earnestness, intelligence, benevolence, and practical insight are beyond question. But he appears to be wanting in philosophical penetration and grasp. This is perhaps already apparent as regards the positive aspect of the work; with respect to the criticisms of other writers, it is shown, *e.g.*, in the author's objections to the systems of Kant (p. 35, &c.) and J. S. Mill (pp. 52-55, &c.). His criticism of the latter (whom he appears to regard as the latest exponent of Utilitarianism) is indeed rendered valueless by the failure to distinguish between Ethical and Psychological Hedonism.

On the whole, the part which is most palpably weak is perhaps the section on Method; that which is best is perhaps the criticism (in book iii.) of what M. de Baets calls "l'ecole anthropologique et psychiatrique," of which Lombroso seems to be the most prominent representative.

Les Lois Sociologiques. Par Guillaume de Greef. Paris: Félix Alcan. Pp. 181.

M. de Greef has apparently drawn up this little volume in the form of lectures in the first instance, otherwise it is difficult to account for the frequent repetition of the same ideas in so many of the chapters. In spite of this defect M. de Greef has made a praiseworthy attempt at defining the nature of sociological laws. A sociological law, we are told, is the constant and necessary relation which exists between a social phenomenon and the conditions under which the phenomenon makes its appearance. The method and the only method by which sociological laws are discovered is the method of observation and experiment. The results of the rigid application of this method is to show that there are sociological laws, that is to say, constant and necessary relations between certain social conditions and certain social phenomena. Several instances of the existence of these sociological laws are cited. The relation between the rate of illegitimacy and the rate of wages is an example of an elementary social law, the relation between economic leisure and artistic production is another example, so also is the relation between knowledge and belief, and the relation between suicide and town life. Complex sociological laws exhibit the relation between groups of social phenomena. An instance of these complex sociological laws is the relation which exists between economics and population, or economics and politics, or economics and ethics, or economics and law. According to M. de Greef the thing that vitiates the great labours of Mr. Spencer is that he has neglected and systematically denied the utility and the possibility of classifying social phenomena. Such a classification is indispensable to sociological investigation, and M. de Greef gives a sketch of the manner in which it may be effected. In a chapter on progressive

and regressive laws M. de Greef endeavours to show what the conditions are which produce social advancement or decay. Social decay passes through the same stages as mental decay. What the mind acquires last it loses first. It is the same with society. When a society begins to degenerate the decline first becomes visible in its most complex structures. that is to say, in those structures which are of most recent growth and are most dependent upon the harmonious co-operation of a multitude of antecedent conditions. If the representative system, for instance, is to be looked upon in its present form as the most complex system of government which the world has ever produced, and if there are evident signs that this system is tottering, without any corresponding signs that it is being supplanted by a still more highly evolved instrument, we are to conclude that there is social regression and that society is descending to a lower and less highly evolved plane. In view of recent events we can only exclaim, *Absit omen.*

Schriften der Gesellschaft für psychologische Forschung, Heft 5. *Jean Paul's Seelenlehre.* Von Dr. R. VON KOEBER. *Die Psychologie Charles Bonnet's.* Von Dr. MAX OFFNER. Leipzig: Ambr. Abel, 1893. Pp. 517-728.

The sole discoverable reason why Jean Paul and Ch. Bonnet are discussed together lies in the coincidence of their views concerning metempsychosis, the existence of an ethereal body which survives the death of the gross body, and similar topics. Jean Paul, it appears, was directly influenced by Bonnet's teaching on these points. We have found Dr. Koeber's account of the great novelist and mystic decidedly disappointing. There is much matter interesting and valuable to the psychologist in Jean Paul's writings. No one could penetrate more profoundly than he into depths of human feeling. But of all this Dr. Koeber tells us nothing. He confines himself to the soul-doctrine, which is only capable of exciting a languid interest as an historical curiosity.

Dr. Offner's monograph is very full and satisfactory. Bonnet is of real importance in the history of psychology. Like Hartley, and to a considerable extent on similar lines, he endeavoured to produce a scientific psychology based on exact analysis and connected throughout with the results of physiology. He himself affirms that he had read little and thought much, and it is therefore not surprising that at a time when novel ideas were in the air, the results of his own reflexion showed many undesigned coincidences with the writings of his contemporaries and immediate predecessors. In his *Essai analytique sur les facultés de l'ame* (1759), he compares man before he has received any sensations to a statue, and he traces with care and minuteness the changes which would ensue if a single sense—that of smell—gradually came into play. It does not appear that he was indebted to Condillac for the idea of this method. According to his own statement he had already thought out his plan of procedure before he saw the *Traité des sensations* (1754). Only in one point was he influenced by Condillac. His original intention was to illustrate the beginning of mental development by supposing the first developed sense to be that of sight. But Condillac argues that it is best to begin with what is most simple, and his reasoning convinced Bonnet. In the execution of their common scheme there is considerable difference between them. Bonnet, unlike Condillac, confines himself exclusively to the sense of smell, on the ground that what is said of it may be easily applied to the other senses. On the other hand he is much more minute in working out details than his rival.

In the expository part of his work Dr. Offner discusses Bonnet's view

of the relation of mind and body; his general view of the origin and growth of knowledge, in which he follows Locke more closely than Condillac did; his doctrine of the concomitance of mental processes with brain processes; his theory of acquired functional dispositions of the substance of the brain, and of acquired functional combinations of these dispositions as applied to explain the facts of memory recognition, association, habit, prejudice, and passion; his interesting account of dreams and hallucination, which he regards as governed by fundamentally the same psychological laws as waking life, the essential difference being that in these states the mind is entirely passive; his doctrine of the mental activity, whereby the soul maintains and intensifies neural processes corresponding to ideas in which it is interested; his theory of abstraction and of intellection in general as dependent on attention; his theories of feeling and of volition. Dr. Offner's exposition is clear and interesting in detail, and it is interspersed with some valuable discussion of the psychological questions which emerge. He succeeds in giving a satisfactory view of Bonnet's teaching as a systematic whole.

Received also:—

F. H. Bradley, *Appearance and Reality*, London, Swan Sonnenschein & Co., New York, Macmillan & Co., 1893, pp. xv., 552.

International Congress of Experimental Psychology, Second Session, London, Williams & Norgate, 1892, pp. xi., 186.

A. Macdonald, *Abnormal Man, being Essays on Education and Crime and Related Subjects, with Digests of Literature and a Bibliography*, Washington, Government Printing Office, 1893, pp. 445.

S. C. Banerji, *Berkeley's three Dialogues between Hylas and Philonous, with Introduction and Notes*, Calcutta, Hare Press, 1893, pp. lii., 134.

E. Mach, *The Science of Mechanics*, translated from the second German edition by Thomas M'Cormack, London, Watts & Co., and Chicago, The Open Court Publishing Co., 1893, pp. xiv., 534.

A. Loria, *Les Bases Économiques de la Constitution Sociale*, Paris, F. Alcan, 1893, pp. 430.

Ch. Dunan, *Cours de Philosophie*, Librairie Ch. Delagrave, 1893, pp. 336.

L. Bridel, *Le Droit des Femmes et le Mariage*, Paris, F. Alcan, 1893, pp. 167.

S. Fragapane, *Contrattualismo e Sociologia Contemporanea*, Bologna, Ditta Nicola Zanichelli, 1892, pp. 247.

G. Cimbali, *Le Scienze Morali e Politiche*, Napoli-Roma-Torino, Roux e Co., 1893, pp. 86.

F. de Sarlo, *Il Fattore della Motilita*, Roma, Tipografia della R. Accademia dei Linæi, 1893, pp. 81.

G. Cesca, *La Relione della Morale*, Padova, Libreria all' Università, Verona, Libreria alla Minerva, 1893, pp. 102.

IX.—PHILOSOPHICAL PERIODICALS.

The Philosophical Review.—No. 10. J. M. Baldwin—Internal Speech and Song. ["All pitch reproduction is auditive. Pitch recognition (absolute) is due to association between the motor ingredients of pitch qualities and the motor elements of the attention. Verbal reproduction is of several types—motor, visual, auditory, &c. Verbal recognition is due to association of the motor elements of that memory-image which most readily stimulates attention with the motor elements of the attention." "The existence of memory types is due to the education of the attention under the operation of the 'law of sensory-motor association'; the motor ingredients of a particular kind of memories become in this way implicated by association with the motor elements of the attention." We desiderate an exact explanation of the meaning of "motor element"; is it the memory-image of motor sensations, or is it an inchoate movement? If it is both, which is essential? We desiderate also a detailed and accurate account for each special case of the distinction between the motor ingredients of the memory-image and the motor ingredients of attention to this image. The most interesting part of the paper is the discussion of absolute pitch recognition. The argument against Von Kries does not, however, appear to be at all conclusive. The explanation of the influence due to timbre given by Baldwin is easily reconcilable with the general *Benennungs association* theory as distinguished from Baldwin's special modification of it.] Dickinson S. Miller. [Whatever we think of falls within our subjective consciousness. Marked ingenuity and subtlety are shown in working out this ancient thesis, and defending it against objections. But Mr. Miller has set himself an impossible task.] E. Adickes.—Bibliography of writings by and on Kant which have appeared in Germany up to the end of 1887. Pt. ii.: Writings on Kant, No. 160 *et seq.*

Revue de Metaphysique et de Morale.—M. A. Bertrand—Correspondance entre Maine de Biran et André-Marie Ampère. Sully Prudhomme—Sur l'orgine de la vie terrestre. C. Riquier—De l'idée de nombre considérée comme fondement des sciences mathématiques.

Revue Philosophique.—18me Année, No. 7. July, 1893. V. Egger—Jugement et resemblance. [A judgment consists of two terms plus a something which keeps them distinct. Its origin must be sought therefore, not in the absolute unity of the concept, but in association by resemblance, which affords two terms at once united and distinct. The connecting link, which in the association is implicit and obscure, is in the judgment explicit and clear. Identity is given in association by resemblance, and only the mental operation of abstraction is required to disentangle it and make it evident. Hence the principle of identity is sufficiently accounted for by the ordinary mental functions and without recourse to the *a priori*. Association by contiguity is not reducible to association by resemblance, but it is from the latter alone that judgment is derived. Among modern philosophers who have treated of the judgment, Condillac only has come near to the true explanation.] J. Soury—Origine et nature du mouvement organique. [A purely physiological paper.] G. Mouret—Le problème de l'infini. I. Relativité. [An endeavour to "elucidate, from an objective point of view, the signification of that kind of quantity called infinite quantity, which mathematicians have represented by the symbol ∞". The concept of the infinite and

that of its counterpart zero implies four essential properties: "The infinite and the zero are (1) the contraries of the finite, (2) negative concepts, opposed to the finite—a positive concept, (3) unities, opposed to the indefinite multiplicity of the finite, (4) the limits of the finite". These properties, as pertaining to 'zero,' are established and illustrated by an analysis of the notion of mass, or quantity of matter.] Notes et Discussions. M. Mauxion—Quelques mots sur le nativisme et l'empirisme. [Calls attention to the persistence of visual images as an important factor in the perception of space.] E. Joyau—De l'introduction en France de la philosophie de Kant. Notices Bibliographiques, &c. No. 8. August. A. Penjon—Le rire et la liberté. [The essence of the pleasant and laughable in all its forms is spontaneity, or liberty,—and "laughter is only the expression of our own feeling of liberty, or of our sympathy for certain manifestations, real or imaginary, of liberty in others; always and everywhere it is as the natural echo in us of liberty". With this as guiding principle, the several conditions and causes of laughter are examined.] C. Mouret—Le problème de l'infini. I. La relativité (Fin.). [Continues the analysis of the notion of mass, exhibiting the properties of the infinite, as in previous number of the 'zero'. Both infinite and zero are derived from the "notion-mère," the 'not-finite,' which is the contrary of the finite. Both imply the absence of a certain change, the presence of which is the characteristic of the finite. "The infinite is not absolute but relative, is the position of a term in a system of relations"—"expresses directly or indirectly a certain simple relation of its determined object with other determined objects".] V. Egger - Jugement et resemblance (Fin.). [Criticism of Mill's theory of judgment.] Notes et Discussions, &c.

Zeitschrift für Psychologie und Physiologie der Sinnesorgane.—Bd. v., Heft 3 und 4. H. Ebbinghaus—Theorie des Farbensehens. [There are concerned in *normal colour vision* three sensitive substances, situated in the most external retinal layers, and differing in distribution, power of absorption, and decomposability. (1) The *white substance*. Throughout the retina. Most sensitive. Perpetually decomposed (sensations of white and grey) and regenerated. (2) The *visual purple;* decomposed into visual yellow; further decomposed by the green-to-violet rays. Exists in a reddish and rose-violet form. In the external members of the rods and cones. Final decomposition—products used for regeneration. Decomposition of purple and yellow = sensation of brightness, *plus* a 'toning' of yellow and blue. The 'rhythms' of the latter colours are antagonistic. (3) The *red-green substance*. In the external members of the cones. More decomposable than the visual purple. Originally green (complementary to purple; therefore these cone-members colourless; decomposed to red; further by middle wave-lengths: final products regenerated to green. Decomposition of green and red = sensation of brightness, *plus* a 'toning' of red and green; again, antagonistic 'rhythms'. *Abnormal colour vision.* Ordinary colour-blindness = absence of (3). 'Red' and 'green' blindness are due to the presence of one or other form of (2). 'Colour weakness' and irregularities of colour antagonism are to be explained centrally, by disturbances of the 'rhythm'-excitations. Total colour-blindness means either absence of (2) and (3); or central disturbances. The paper occupies 90 pages.] P. Hocheisen—Ueber den Muskelsinn bei Blinden. [The perception of passive movements—the perceptions of the 'muscle-sense' in general (p. 239)—are more than normally acute in the case of practised blind subjects. The causes of this are mental: attention and practice in the interpretation of sensations of slight intensity. The movement-sensibility

of children is better than that of adults. The differences of 'right' and 'left' have but little to do with acuteness of movement-discrimination. The cutaneous 'sense of place' is not always provably more than normally acute in the blind: where it is so, the fact is referable to practice.] Litteraturbericht. Bd. v., Heft 5. R. Sommer—Zur Theorie der cerebralen Schreib-und Lesestörungen. [*Cf.* the writer's *Zur Psychologie der Sprache, Zeitscher.*, vol. ii. pp. 143 ff. (1) Partial letter-alexia after the appearance of an apoplectic area in the left hemisphere. (2) Some letters are read, some never read, some occasionally. *Cf.* dyslexia. (3) Reading is not the result of the cognition of letters *plus* the remembrance of their sounds. But there is no 'centre' for the junction of letters. Perhaps we normally think the letter-sounds in such rapid succession that they fuse to form a word. (4) In cases of partial alexia it does not follow that letters read can be written down when called out to the patients. On the other hand, letters can be written from dictation which cannot be read.] E. Brodhun—Die Gültigkeit des Newtonschen Farbenmischungsgesetzes bei dem sog. grünblinden Farbensystem. [The experiments referred to by A. König, *Sitzungsber d. Berl. Akad.*, March 31, 1887. The writer's colour-system showed considerable deviations from Newton's law. Tentative determination of these.] Litteraturbericht. [Külpe on Cornelius' *Verschmelzung und Analyse.*]

Philosophische Studien.—Bd. ix., Heft 1. H. Bruns—Ueber die Ausgleichung statistischer Zählungen in der Psychophysik. [A valuable paper, suggested by Kämpfe's recent work on Right and Wrong Cases: too technical for summarisation.] J. Merkel—Die Methode der mittleren Fehler, experimentell begründet durch Versuche aus dem Gebiete des Raummasses I. [Continuation of previous articles; vii. 558, viii. 97. Theory of the method.] A. Lehmann—Ueber die Beziehung zwischen Athmung und Aufmerksamkeit. [(i.) *Introduction.* Lange, Münsterberg, &c. Criticism of Eckener. (ii.) *Apparatus.* Light, sound, and electricity employed. (iii.) *Results.* Causes of fluctuation are breathing, quivering of the muscles of accommodation, the memory-image of the sensations (interferes with the others; hence irregularity of fluctuation) and various special conditions. (iv.) *Theoretical remarks.* "These facts can tell us nothing of the nature of attention, except, what no one disputes, that 'attention' is dependent on organic processes." Preferable to the author is a theory of attention which does without 'apperceptive activity,' and which accords with Wundt's theory of hypnosis (viii. pp. 42 ff.).] L. Witmer—Zur experimentellen Æsthetik einfacher raümlicher Formverhältnisse. I. [(i.) *Introduction.* Hogarth to Zeising. (ii.) *Zeising's doctrine of proportion.* The golden section. Value of Zeising's work. (iii.) *Fechner's experimental Æsthetics.* (iv.) *Some hitherto unpublished investigations by Fechner.* Two series of experiments, with ellipses and i's. (v.) *Fechner's methods and measurements.* (vi.) *A new method of choosing.*] Tafel des integrals ϕ (γ), &c., Zusammengestellt von B. Kämpfe. [*Cf.* viii. 511, and ix. 1.]

Philosophische Monatshefte.—Bd. xxix., Heft 5, 6. Paul Carus—Die Religion der Wissenschaft. Eine Skizze aus dem philosophischen Leben Nordamerikas. [An account of the aim and principles of the 'Open Court' Publishing Company.] R. Haar—Ein unaufgeklärtes Moment in der Kantischen Philosophie. [A critical examination of the Lectures on Psychology recently edited and attributed to Kant by Carl du Prel, and of the larger 'Lectures on Metaphysics' published in 1821 by V. H. Ludwig Pölitz, and a refutation of the charge of mysticism founded upon them. The writer shows, from internal and other evi-

dence, the improbability of the supposed authorship, and quotes Kant's contemporaries, Schultze, Borowsky, Jachmann, to prove Kant's complete freedom from 'mysticism'.] V. Tönnies—Werke zur Philosophie der Geschichte und des socialen Lebens (Vierter Artikel, Gabriel Tarde, Les Lois de l'imitation). [A closer definition and limitation of the term imitation demanded. Many phenomena brought under imitation fall rather under the law of 'like conditions, like results'.] Recensionen, &c.

Vierteljahrsschrift für Wissenschaftliche Philosophie. — Th. Achelis—Die philosophische Bedenlung der Ethnologie. [Emphasises the importance of Ethnological data in Psychology, Theory of Knowledge, and Ethics; but no fresh light is thrown on the subject.] Fr. Hitschmann—Der Blinde und die Kunst. [An interesting paper dealing mainly with the appreciation shown by the blind for poetry and especially for the drama. Their remarkable sense of rhythm is noted.] Chr. Ehrenfels—Werththeorie und Ethik. [Individual is distinguished from social ethics. For the individual as such ethical value belongs to what furthers sentiments of mystical peace and confidence in face of death and evil. From the social point of view ethical value belongs to the mental conditions which determine voluntary action. The more fully morality is developed the more does ethical valuation attach to general dispositions of feeling and desire rather than to particular intentions, purposes, or ends.] W. Schnappe—Die Bestätigung des naiven Realismus. Offener Brief au Herrn. Prof. Dr. Richard Avenarius.

Zeitschrift für Exakte Philosophie.—Bd. xx., Heft 1. W. Resl—Zur Psychologie der subjektiven Ueberzewgung. [Subjective conviction in contradistinction from objective, is "jenes Fürwahrhalten," which is accompanied by confidence in its own validity, although its objective grounds are inadequate. The present article investigates the genesis of subjective conviction. No less than fourteen "different kinds of causes and grounds" are enumerated. This article is well worth reading.] O. Flügel—Zur Psychologie und Entwickelungsgeschichte der Ameisen. [A criticism of the theory of natural selection.]

Philosophisches Jahrbuch.—Bd. vi., Heft 3. J. Pohle Ueber die actuale Bestimmtheit des unendlich Kleinen (Schluss). C. Gutberlet—Fr. Paulsen's philosophisches System. C. Ludewig—Der Substanzbegriff bei Cartesius im Zusammenhang mit der scholastischen und neueren Philosophie. F. X. Kiefl—Gassendi's Skepticismus und seine Stellung zum Materialismus. III. Argumente gegen jedes transcendente Wissen und Vertheidigung der Skepsis. B. Adlhoch—Herder und Geschichts philosophie.

Rivista Italiana di Filosofia.—Anno viii., vol. i. May and June. C. Dandolo—La dottrina della Memoria in Cartesio, Malebranche and Spinoza. [*Descartes* explains memory physiologically, through the traces left in the brain by the animal spirits. His theory is physiologically inadequate as failing to recognise the complexity of the elements concerned in both sensation and representation, and is further inconsistent with his metaphysical dualism. Descartes tried to find a definite seat for the soul in the organism, but it cannot be admitted that he anticipated the modern science of physiological psychology, which seeks the laws of internal phenomena in the facts of the organism and in particular of the cerebral mechanism and which tends to monism instead of to dualism. *Malebranche* explains memory through the conjunction of our several perceptions with the changes in the fibres meeting in the chief

part of the brain, where is the seat of the soul. The oftener a change is repeated, the greater the facility and tendency to repeat it and hence to reproduce the impression. Malebranche's psychology is superior to Descartes' inasmuch as it recognises association, but he fails not only to explain memory but even to account for the distinction between the image and the sensation, the traces left by either being qualitatively identical. The metaphysical difficulty also recurs. In attempting to reconcile the Cartesian 'dissidio' between God and the world, Malebranche tends to identify human with divine thought, to make God think in us, and thus memory becomes a mere imperfection, since to the divine thought past and future are as an eternal present. In *Spinoza's* theory, the remembrance is the sensation plus the thought that it is sensation in time past, of a given duration. This introduction of the temporal element is a decided step in advance, but in the difficulties of combining in memory *sensation*, which is merely phenomenal, with the essentially opposed *intellect*, which intuits things *sub specie æternitatis*, we have a repetition of the metaphysical and logical difficulties of Descartes and Malebranche.] C. Mantovani—La psicologia come scienza sperimentale. [Answers the objections to the claims of psychology to be considered a science, and concludes that "psychology, as a science, is concerned primarily with facts, and accepts hypotheses only in so far as they serve to connect those facts, renouncing, in common with every other positive science, all pretensions to explanations which transcend its limits to enter the region of metaphysical explanation". Thus while facts oblige the recognition of a *psycho-physical parallelism*, psychology can affirm nothing as to the essential nature of the relation between the two orders of phenomena.] A. Valdarnini—Un nuovo trattato di Filosophia della Natura. [An account of the Hegelian philosopher Pietro Ceretti, d'Intra (1823-84) and his Essologia.] N. R. D'Alfonsoto Spettro dell' Amleto (Note Psicologiche). Bibliographia. E. Dillmann (L. Credaro)—Discussions, &c. July and August. A. Faggi—Saggio sul misticismo. [An account and criticism of Osvaldo Zimmermann's mystical treatise 'Die Wonne des Leids' and of similar doctrines. Zimmermann's treatise is based on the psychological theory that the difference between pleasures and pains is purely intensive and not qualitative, and assumes (1) the essential identity of the pleasure and the pain in all feelings, and (2) the essential equivalence of the sensible and the spiritual. The 'voluptuousness of pain' is then a fusion of sensible and intellectual, of pleasurable and painful elements. In its essence this is a metaphysical doctrine "revealing the eternal identity beneath the fleeting variety of the world of phenomena". Anticipated by the ancients, its true author is Schopenhauer, whose influence upon Wagner is an instance of the influence mysticism exerts in literature and art. Though expressing an eternal need of the human spirit, mysticism "can never acquire a footing in the domain of science".] C. Marchesini—Il Dinamismo psicologico. [A study of psychical activity as at once analytic and synthetic, the basis of the co-ordination of external phenomena (natural science) and of the co-ordination of states of consciousness (psychology).] V. Bernini—Il Grazioso. Bibliographia. Il piacere e il dolore secondo Münsterberg (F. de Garlo), &c.

X.—NOTES.

THE LATE G. C. ROBERTSON'S ORAL TEACHING.

In Miss Foley's interesting paper on "George Croom Robertson as a Teacher" (MIND, N.S., No. 5, pp. 275-280) it was suggested that an attempt might be made to reproduce the substance of his oral teaching in a connected form. We are happy to say that a serious effort to carry out this suggestion is now being made. The object of the present note is to invite old pupils who have in their possession written records of Prof. Robertson's lectures to aid the undertaking by sending their notes to Miss C. Foley, 53 Russell Square, London.

MR. H. LAURIE'S EMENDATION OF MILL'S CANONS OF INDUCTION.

Prof. Fowler has drawn our attention to the fact that the modified statement of Mill's Method of Agreement proposed in Mr. H. Laurie's article on "Methods of Inductive Inquiry," which appeared in the last number of MIND, has been largely anticipated in his own *Inductive Logic*. Mill's canon runs thus: "If two or more instances of the phenomenon under investigation have only one circumstance in common, the circumstance in which alone all the instances agree is the cause (or effect) of the given phenomenon" Mr. Laurie's proposed modification is as follows: "When within our experience a given antecedent has always been followed by a given consequent, or when phenomena have always been found accompanying each other, there is a probability that the given antecedent and consequent, or the concomitant phenomena, are connected by a law of causation; and the probability increases with the number and variety of the instances" Prof. Fowler's amended canon runs thus: "If two or more instances of the phenomenon under investigation have only one other circumstance in common, that circumstance may be regarded with more or less of probability as the cause (or effect) of the given phenomenon, or, at least, as connected with it through some fact of causation" The canon, as thus stated, emphasises the fact that the Method of Agreement can only give varying degrees of probability (and the subsequent exposition makes it plain that this probability will depend on "the number and variety of the instances"), that it "embraces concomitant as well as sequent phenomena," and that it may, in fact, be applied to establish a presumption as to any kind of causal connexion.

THE PREFACE TO VOL. II. OF MR. H. SPENCER'S "ETHICS".

Several criticisms having shown that the preface to vol. ii. of *The Principles of Ethics* is seriously misleading, Mr. Spencer has decided to recast it. The following will be substituted in all copies hereafter issued:—

"Now that, by this issue of parts v. and vi., along with part iv. previously published, I have succeeded in completing the second volume of *The Principles of Ethics*, which some years since I despaired of doing, my satisfaction is dashed by the thought that these new parts are less definite in their conclusions than I had hoped to make them. Complete definiteness was of course not to be expected. Right regulation of the actions of so complex a being as Man, living under conditions so complex as those presented by a society, evidently forms a subject-matter unlikely to admit of specific statements throughout its entire range.

"The primary division of it—private conduct—necessarily dependent in part on the nature of the individual and his circumstances, can be prescribed but approximately; and guidance must, in most cases, be obtained by a judicial balancing of requirements and avoidance of extremes. Entrance on the first great division of public conduct—Justice—does, indeed, introduce us to conclusions which are in large degree definite. Happily, into this most important portion of Ethics, treating of certain right relations between individuals, irrespective of their natures or circumstances, there enters the ruling conception of equity or equalness—there is introduced the idea of *measure;* and the inferences reached acquire a certain quantitative character which partially assimilates them to those of exact science. But when, leaving this all-important division, the injunctions of which are peremptory, and take no cognisance of personal elements, we pass into the remaining divisions—Negative and Positive Beneficence—we enter a region in which the complexities of private conduct are involved with the complexities of relations to the no less complex conduct of those around; presenting problems for the solution of which we have nothing in the nature of measure to guide us, and must commonly be led by empirical judgments.

"In view of these admissions some will contend that no aid is here furnished by the general Doctrine of Evolution. The first reply is that, in that chief division of Ethics treating of Justice, it furnishes aid both as verifying conclusions empirically drawn, and as leading to certain unaccepted conclusions of importance. If it be said that throughout the divisions of Ethics dealing with Beneficence, Negative and Positive, the conclusions must, as above implied, be chiefly empirical, and that therefore here, at any rate, the Doctrine of Evolution does not help us, the reply is that it helps us in general ways though not in special ways. In the first place, for certain modes of conduct which at present are supposed to have no sanction if they have not a supernatural sanction, it yields us a natural sanction—shows us that such modes of conduct fall within the lines of evolving humanity—are conducive to a higher life, and are for this reason obligatory. And, in the second place, where it leaves us to form empirical judgments, it brings into view those general truths by which our empirical judgments should be guided—indicates the limits within which they must fall.

"Beyond serving to reinforce the injunctions of Beneficence by adding to the empirical sanction a rational sanction, the contents of parts v. and vi. have these claims to attention: First, that under each head there are definitely set down the various requirements and restraints which should be taken into account: so aiding the formation of balanced judgments. Second, that by this methodic treatment there is given a certain coherence to the confused and often inconsistent ideas on the subject of Beneficence, which are at present lying all abroad. And third, that the coherent body of doctrine which results is made to include regulation of sundry kinds of conduct which are not taken cognisance of by Ethics as ordinarily conceived."

NEWS.

Professor Adamson has been appointed to the Chair of Logic and Psychology in the University of Aberdeen, vacated by the death of Professor Minto. Mr. Alexander, of Lincoln College, Oxford, has succeeded Professor Adamson in the Chair of Logic and Philosophy in Owens College, Manchester.

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